

**WORKER PARTICIPATION AND
WORKER PRIVACY :
A CONCERN FOR MANAGERS
PLANNING OFFICE SPACE?**

A thesis

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Anna Natasha McMillan

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ABSTRACT

Office space planning is a common occurrence in organisations, yet receives little attention in management and organisational theory. One possible explanation is that the physical work environment and its planning does not have a significant effect on worker attitudes and behaviour and therefore is not a priority for management practice. This is the interpretation of some early organisational studies which minimise the value of the physical environment as a management tool (e.g., as a "Hawthorne" effect or a "Hygiene factor"). These findings are thought to have contributed to the lack of attention to the physical work environment, including office space, in management theory and practice. However, the office space planning literature, which draws largely from the field of environmental design, suggests that office space planning should be of concern to managers. This thesis investigates this question. Two aspects of office space planning were selected in order to explore this issue: office worker participation in planning and office worker privacy. Office worker participation was selected as an aspect of the **process** of planning and privacy because it was an **outcome** of planning. The practical application of the research question is investigated by analysing recent office space planning processes and outcomes occurring in seven organisations. Sources of data include the perceptions of office managers, office employees and one design professional gained from interviews, as well as written organisational records and floor plans. Key findings concerning participation included: while all managers interviewed had an ongoing and central role in office space planning, this role was new and they found little guidance available; managers were often not aware of their own decision making capability before they involved office workers in planning; poor liaison with those constructing the environment led to limitations in the way offices could be used; and perceived fairness in allocating space was important to office workers. Key findings on office worker privacy included: workers perceived privacy to be important to work related attitudes and behaviour; not having speech privacy or control over accessibility, distractions and interruptions was reported to effect work efficiency; and private interview rooms tend to be thought of as expansion space by managers in times of organisational change. On the basis of the analysis this study concludes that office space planning is deserving of further attention in management practice, research and theory.

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CHAPTER 1

INTRODUCTION

1.0 Research Focus

Office space planning is a task frequently undertaken by managers within organisations, yet management theories pay little attention to factors involved with the *process* of making decisions about office space or with the environmental *outcomes* achieved through planning. Managers are therefore unable to draw upon or contribute to a systematic body of knowledge about how processes and outcomes interact with the work related perceptions, attitudes and behaviours of employees.

The relationship between environmental features of offices and the perceptions, attitudes and behaviour of individuals has been investigated in the field of Environmental Design Research. However this has been from the perspective of design professionals such as architects. This literature has obscured the role of managers and administrators who make the every day environmental design decisions such as: who will use which space and equipment, in what ways, when and with whom (Becker 1981). Managers may be involved in making "one-off" major decisions such as when to renovate or build a new facility, but they continue to live with the effects of the new environment and of the process which created it on the perceptions, attitudes and behaviour of their staff. The design professional typically concludes his or her involvement with a building before users move in. Managers therefore have a major and ongoing involvement with office space planning and its effects. Because of the lack of attention given to this subject in the literature, it seems likely that the involvement of managers in office space planning will be a haphazard, undervalued, and considered to be a "one-off" task rather than an ongoing process. It has not been considered a human resource issue and not been integrated into mainstream management practice. Managers may not collect the information necessary to improve their knowledge about the processes and outcomes involved in office space planning.

This thesis proposes that applications derived from management and organisational theories would benefit from increased attention being given to the planning of the physical work environment. To understand the dynamics involved with and the significance of office space planning to managers and office workers, this research focuses on two issues: on employee participation in the decision making process and on planning for employee privacy.

Planning for worker participation forms the first research focus. Through examining the issue of worker participation it is hoped to identify and illustrate the effects of the office planning **decision making process** on worker attitudes and behaviour. The second focus is on planning for worker privacy. This focus is hoped to highlight issues relating to the effects of **environmental outcomes** planned and achieved on the attitudes and behaviour of office workers. This research aims to both:

- identify the knowledge, activities and processes involved with planning work participation and worker privacy in offices, and
- relate worker participation and worker privacy to worker attitudes and behaviour.

In examining this topic, the literature review examines how management and organisational theories view the interaction between the physical work environment and employee perceptions, attitudes and behaviours. The contribution of environment-behaviour research to the study of the relationship between people and their physical work environments is then considered. This includes both physical features of the physical environment as well as the processes by which environments develop and are perceived. The discrepancies between the impacts suggested by environment-behaviour research and the apparent lack of recognition of these impacts by management and organisational theory forms the rationale for this thesis. The methodology chapter describes and justifies the methods chosen to investigate the chosen problem. It describes the methods used to collect the data on the perceptions of managers and office employees. These were gained

from interviews, organisational records and floor plans. A results and analysis chapter presents the findings of this research which is investigated by analysing recent office space planning processes and outcomes occurring in seven organisations. The final chapter discusses the findings of the analysis in the light of the literature and considers the implications of this study of office space planning for management theory and practice, and for those undertaking research in this area.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter reviews the literature relevant to the study of office space planning: in particular, planning by managers; worker participation in planning and; worker privacy. The areas of research which contribute most to an understanding of these elements of office space planning are the environmental behaviour and the environmental design literature as well as management and organisational theory and research.

2.1 The Study of Environment and Behaviour

This section outlines research designed to explore the relationships between environment and behaviour. The field of environmental behaviour (which includes environmental psychology) is concerned with the relationship between environment and behaviour, where the environments studied may be natural physical geographical features, or "man-made" or "built" environments. The field of environmental design is concerned with improving "built" environments and is discussed in the next section. These fields are relatively new, with much theoretical development occurring in the 1970's. Two American publications, the journal *Environment and Behaviour* and conference proceedings of the *Environment Design Research Association (EDRA)* provide a useful record of theoretical developments in this field.

Study of the relationship between behaviour, environment and design has been concerned with the extent to which the environment "determines" or "causes" behaviour. An extreme view is held by "architectural determinists", who believe that people's behaviour can be predicted from a design. The term "social engineering" has been used to describe this approach (Harris and Lipman 1980), expressing the notion that a design through implementing particular physical features will produce particular types of social interactions. Research in this area has focused

on people's reactions to various environmental factors (Altman and Vinsel 1977). Other theorists believe that the interaction between environment and behaviour is a two-way process so that explanations for behaviour should take into account not only the physical context but also the social and organisational context.

The interaction between environment and behaviour has been examined at three different levels of analysis: (i) between cultures (eg., Hall 1966); between individuals (eg., Altman 1974) and (iii) as a function of the symbolic meaning of space. This review briefly outlines each of these approaches in turn.

- **Hall's (1966) Spatial Zones and Sommer's (1969) Personal Space**

Hall (1966), a cultural anthropologist, was concerned with the ways in which different cultures use space and the physical environment. His work arose in the context of the newly developing field of environment-behaviour research, which was largely concerned with describing the reaction of people to environmental factors. However Hall argued that people did not just react to their environment. His research was concerned with describing the ways in which people actively use and shape their environment, use it the physical environment to manage social interaction. His methods were qualitative and non-experimental, based on descriptive interviews and natural observations.

Based on his research he suggested that humans regulate their social interactions by employing four spatial "zones", each of which permits the exchange of a different quantity and intensity of communication including touch, smell, hearing as well as vision. The four zones were intimate distance (0-18 inches); personal distance or personal space (1.5 - 4 feet); social distance (4-12 feet); and public (12 feet or more). Hall's work initiated a field of research within psychology concerned with "personal space", and which used a variety of methodological techniques including simulation studies, laboratory studies and field naturalistic studies. For example, Sommer (1969) extended the concept of personal space and used it to refer to:

...the emotionally charged zone around each person, ... which helps to regulate the spacing of individuals...

and

...the process by which people mark out and personalise the spaces they inhabit...

- **Altman's (1975) Privacy Mechanisms**

Altman (1975), an environmental psychologist, built on Hall's (1966) and Sommer's (1969) work and proposed that the concept of privacy was central to understanding how people use the environment in social interactions.

In his view, privacy is a regulatory process in which individuals or groups make themselves more or less accessible to other individuals or groups. This process results in a particular state of contact with others. Each individual or group has a desired level of contact with others at a particular point in time and employs several behavioural means to obtain this state. For example, the content and tone of verbal speech as well as nonverbal behaviour are used to achieve a particular level of privacy or contact with others. "Personal space" behaviours establish a particular distance and orientation from others, thus permitting different levels of information to be exchanged. "Territorial" behaviours control entry and exit to the area in which the individual is located.

Where the achieved level of contact is the same as the desired level of contact, these behavioural control mechanisms have been effective. "Crowding" describes a situation where a person or group ends up with more contact with others than they desire. Conversely, "isolation" is when less contact is achieved than they preferred. Where either of these situations exist, the person or group may increase their use of the behaviours, choose to accept an undesired level of privacy, or change their ideas about what they prefer. Altman argues that as individuals or groups increase the number and intensity of these mechanisms they must expend more physical and psychological energy, thus reducing that available for the task at hand.

- **Archea's (1977) Visual Access and Exposure model**

Archea (1977) took issue with Altman's (1974) analysis on the grounds that it did not distinguish clearly between what constituted "environment" as opposed to "behaviour", and thus did not provide a useful guide to designers. Whereas Altman believed that behavioural mechanisms play a central role in determining the experience of privacy (being a state of contact with others), Archea believed the analysis of privacy should focus on the ways in which the environment allows a person to have access to others, and to be exposed to others.

Archea's (1977) framework begins with the notion that each person is the centre of a "dynamic field of information about surrounding events and activities, to which his or her behaviour is a continuous adjustment". As a person becomes able to monitor additional surrounding activities, he or she becomes more aware of emerging behavioural opportunities. Similarly, as a person's likelihood of being monitored by others increases, accountability for his or her behaviour increases accordingly. A person's interpersonal behaviour will be influenced by both the possibilities for monitoring the behaviour of others (access to others) and by the possibility of being monitored by others (exposed to others).

Archea (1977) believed that interpersonal behaviour depends on the arrangement of the physical work environment which regulates the distribution of information surrounding a person. In particular he identified key attributes of the physical environment which regulate the flow and appearance of information. These include:

- **size and position** of environmental features surrounding a person which affect the type and amount of information he or she has access to;
- **permanence** of a feature which affects the flow and appearance of information, (for example, the information available to a person changes by opening a door);
- **textural features** such as a feature's colour, reflectivity, and opaqueness each change the amount and flow of information available.

Archea (1977) conceived the environment as a system involving barriers, channels, edges, switches, and transducers of the flow of information based on the above attributes which allow or prevent a person level of contact with others. Barriers (e.g., walls), prevent access to information whereas channels allow access to information (e.g., doorways, windows). Edges are the point at which the type of information available suddenly changes, (e.g., a wall - window intersection). Switches can be manipulated to change the flow of information (e.g., a door) and transducers change the information from one form to another. A person's location and orientation relative to this system determines his or her visual access to others. Location limits the amount of information about a person can acquire directly over time, whereas orientation limits the amount of information which can be acquired in a single moment.

- **The Symbolic Meaning of Space and Behaviour**

A third area of environmental behaviour research is the study of the social symbolism of space which is concerned with the ways in which an environment accumulates meaning to individuals and groups. This view challenges the architectural determinists' view of the environment-behaviour relationship and suggests that people actively attribute meanings to aspects of their physical environment (e.g., Harris and Lipman 1980). Individuals, groups and others act on the basis of these meanings. Therefore explanations of behaviour in a given setting need to take into account the symbolic value of architectural space. Harris and Lipman (1980) argue that people reflect on their own as well as others' actions by:

...interspersing complex systems of signs between themselves and their environments....social interaction involves the exchange of meanings that have been attributed to people, to their actions, and to the physical settings in which they occur. The ability to act symbolically to represent elements of one's situation - physical as well as social - facilitates the exercise of control over one's daily life...

Harris and Lipman (1980) suggest that people do more than react to external forces. They choose to respond to and identify with particular aspects of their environments. While they do this as individuals, they do so within historically and culturally defined meanings and in a way that reflects their social relations. They argue that "built" physical environments do not just contain

social action; they represent socially constructed meanings. Individuals may not always have control over the social interpretations of space because they are constrained by particular social relationships, especially in situations where there is an imbalance of social power.

Architectural space is similar to other resources, in that social control can be gained by the location and size, and the ways in which an individual or group uses his, her or their allocation. This allocation of space or territory has symbolic as well as physical meaning because it not only acts as a physical barrier between individuals and groups, but also as a symbolic border between the social units of space. Whereas physical barriers constrain access to and from those who occupy a space, symbolic borders signify the presence of rules that constrain access and contact. These rules include who may cross the barrier and under what circumstances. Any allocation of space may be manipulated to sustain a particular set of social relations by regulating the frequency and nature of contact between individuals and groups.

2.2 Environmental Design Research

Identifying the purpose of design has been a key area within environmental design research. Many environmental design theorists consider that the purpose of design has been traditionally focused on meeting aesthetic and construction criteria at the expense of meeting the needs of those using the building. This has prompted two further lines of research; first, a critique of the design process and its limitations (e.g., Zeisel 1981) and second an evaluation of the ways in which the design process could be improved by the inclusion of social science research methods and knowledge (e.g., Brill et al, 1984; Zeisel 1981).

- **Analysis of the Design Process**

Detailed analyses of the design process have identified the activities occurring within each stage. Zeisel (1981) describes the process in the following way:

Design begins when an individual or team first thinks about the project...it includes a stage when working drawings of a project are given to contractors

instructing them on how the designers expect the project to be built...a stage when contractor and designer negotiate changes in design to respond to problems that arise during construction. The process formally ends when construction is completed. Designer conventionally break this down into contractually binding stages: programming, preliminary design, final design, working drawings, construction supervision.

Design has also been described as *"a process of organising, to which general theories of organising can be applied"*, Becker (1981), and as *"an ordered process in which specific activities are loosely organised to make decisions about changing the physical world to achieve identifiable goals"* (Zeisal 1981).

A number of writers (Brill et al 1984 ; Zeisal 1981) have drawn parallels between the design and the general research processes. The building is the experiment, the design an hypothesis about how the design affects behaviour, and a post-occupancy evaluation provides evidence supporting or negating the hypothesis.

In the last 20 years, the traditional role of designers has been challenged by those who believe that the design profession has responsibilities beyond meeting aesthetic and structural criteria within a given budget and time-frame. For example, Brill (1984), a teacher and practitioner of design oriented architecture, reflects on his feelings about this role:

Discussions with clients often left me with an uneasy feeling that I did not have enough basis for making important design decisions. The decisions I was asked to make in a few hours of a day would affect how the people in "my" buildings would behave, live and work for decades. I felt both overawed by and inadequate for such a task , for I had little trustworthy information with which to predict the effects of design on people's behaviour.

- **Research and the Design Process**

Brill et al (1984) comment that designers make most use of research which is easily translated into a physical form, such as findings concerning the engineering performance of materials and sub systems; the relationships of buildings to natural energy sources; or people's place-related emotions (Brill 1984). However, they do not systematically gather valid and reliable

information about the intended inhabitants of their buildings, and do not base design decisions on user information. Unfortunately, in general, their state of knowledge does not improve because few designers or clients carry out post occupancy evaluations in order to find out how the buildings support the users or the organisations.

There have been three major responses which have addressed these issues: the gathering of data about the potential users of a building before beginning a design, the use of social science knowledge about the behaviour of individuals and groups, and the use of post-occupancy evaluation techniques to find out how a building performs after occupancy.

Becker (1981) describes how:

...environmental psychologists and sociologists have been explicit about wanting to influence the nature of experience and behaviour by creating physical settings congruent with and supportive of specified individual, organisational and community goals. Their intent, when working at the facility level has been organisational development, though it is seldom labelled as such. (Steele, 1973). The premise has been that research which clarified human/environment relations would provide a solid empirical basis for making design decisions, to those most responsible for determining the nature and quality of the built environment.

Some studies and theoretical developments provide sets of guidelines for improving the design process, and attempt to address both methodological as well as practical problems. Methodological problems include difficulties encountered when translating social, psychological and organisational criteria into design (e.g., Sloane 1972; Churchman and Ginsberg 1984) and a questioning of the validity and generalisability of subjective ratings of the environment (e.g., Starr and Danford 1978; Danford, Starr and Willems 1979). Brill (1984) cites a number of reasons why designers have not utilised research on user behaviour. The first of these is the difficulty in translating the findings of behavioural research into physical form, combined with the huge volume of research on human behaviour. Brookes and Kaplan, (1972) locate the problem as occurring in the "programming" process, i.e., the initial phase of planning during which the goals, operations and management policies of an organisation are surveyed and studied in order to create a space environment supportive of

those goals. The difficulty is converting behavioural data or requirements into operational guidelines.

Practical problems cited include the following: the feasibility of a designer negotiating access to the actual users of a building; distinguishing between organisational practices, job related needs and individual and group preferences (e.g., Wandersman, Murday and Wadsworth 1979) and the extent to which designers can ensure that the features of a design are used in the intended way.

- **Office Worker Participation in Design**

Harris and associates (1978) found that managers and the architects hired to plan and design offices both felt that office workers should not participate in making design related decisions. Conversely office workers felt strongly that they should participate.

Brill et al (1984) was the only research reviewed which specifically examined the attitudes of workers towards their level of participation. They found that workers who participate have higher job satisfaction and satisfaction with the environment than those who do not. Increased job satisfaction is a function of participation in and of itself while increased job satisfaction can be attributed to environmental improvements resulting from participation.

Brill et al (1984) found that less than 10% of the sample were permitted to participate in the design process, although most wanted to. One third of those who did participate would like to have further participation. It was a pervasive phenomenon, because at 90% of all the sites, fewer than half the workers participated in any way in the major organisational event of a move to new facilities. Managers and supervisors participated more frequently on more issues and got to make more decisions than other job types.

Workers were most likely to participate by giving information (as on a questionnaire) or an opinion (as in an interview) and seldom to make decisions. Making decisions is a more

satisfying form of participation for them. Decisions they are most frequently asked to make concern work and workflow and they seldom participate on issues like aesthetics and workspace size. The most important issues for participation are furniture selection and workspace location, with workplace size and colour scheme somewhat important. Choosing where to put equipment and planning the work flow are least important to them although they get to participate in these most frequently.

2.3 Organisational and Management Theories

This section considers the perspective of those who focus on studying work organisations and the roles of management. By identifying key variables which influence the perceptions, attitudes and behaviour of worker, these studies then recommend factors which deserve most management attention. The first part of this section considers the contribution of management and organisational theories to the study of office as a physical work environment. The second part of this section considers the contribution of organisational and management to the issue of worker participation in planning offices.

2.3.1 The Physical Environment as an Organisational Variable

While there is a range of research on behaviour occurring within organisations, variables related to the physical work environment do not play major roles in most organisational theories or those which focus on worker motivation. Becker (1981) suggests that this may be due to the way the physical environment "is construed, it's concreteness, literalness, and the fact that we can see, touch and smell our physical surroundings" means that it has received less research attention than less tangible factors such as behavioural norms. Becker (1981) argues that because there has been little research into the ways that physical surroundings develop, and how they structure and influence social relations or development processes, this has contributed to the lack of attention given to physical environment in organisational theory.

Other reasons given for organisational theories "taking for granted" the physical context of work have been interpretations of the findings of the Hawthorne studies and the manner in which they have been reported and the findings of Herzberg (1966).

- **The Hawthorne Experiments and Neo-Classical Theory**

A number of studies were conducted by the Western Electric company at their Hawthorne works. The original relay assembly studies were set up to establish whether light intensity on the shop floor of relay assembly workers affected employee productivity. This research found an initial increase in the productivity of a group which experienced increased illumination levels when compared with that of a control group. However when the illumination levels were decreased or remained the same, productivity levels continued to rise. One conclusion drawn was that management attention had more effect on the productivity of workers than changes in the physical environment. From a managers perspective, this suggested the physical environment could be ignored as a means of increasing productivity.

- **Herzberg's two factor theories of job satisfaction**

A second influential study was that of Herzberg (1966). He claimed that while poor working conditions contributes to worker dissatisfaction, improving working conditions does not lead to improved satisfaction, but only to a decrease in dissatisfaction. Brill, Konar, Margulis and BOSTI (1984) believed that this research implied that managers and other planners of office space could rationally aim to meet minimally acceptable requirements and no more. Spending additional time and resources on improving the physical work environment would not improve or enhance satisfaction.

2.3.2 Worker Participation as an Organisational Variable

While the organisational literature does give much attention to the physical environment as a key variable, there is a growing literature on theories of participation by workers in organisations. For example, Deeks and Boxall (1989:326) outline four schools of thought which support greater participation by workers. These include:

- **Democratic theory** which argues for democratic processes to be applied to all aspects of collective life including the workplace. Through democracy worker capabilities will be drawn out and developed over time. Those against democracy argue people are generally apathetic, irrational, easily swayed by the mass media and lacking in specialist expertise to contribute effectively. Participation can be unhelpful and decisions are better left to an informed elite (who could be elected by a majority).
- **Socialist theory** argues for participation as part of a total overhaul of current systems resulting in workers controlling all aspects of the production processes.
- **Human Growth and Development theory** stresses the value of participation as a motivator and as a management style. Employees will be more committed to decisions when they have had a chance to participate.
- **Productivity and efficiency theorists** argue that participation is pragmatic and will improve the quality of management decisions. Participation is also a means of decreasing resistance to change. People are less likely to sabotage or resent decisions they have helped to shape. Pay offs include lower absenteeism, reduced turnover and stoppages.

2.4 Office Space Research

In this section the focus turns to review the research which has investigated office space specifically. A number of concepts from the environmental behaviour, environmental design and management and organisational behaviour research fields have already been introduced. Some of these concepts have been adopted by those investigating office space.

One focus of office space research has been an examination of the effects of the "degree of enclosure" an individual's or a group's work area has on work related attitudes, perceptions, and behaviour. Degree of enclosure refers to the number, height and type of partitions, walls

or windows surrounding a work area. The examination of degree of enclosure is used to illustrate the ways in which variables in the office have been studied and how concepts from the general study of environments, design and organisational behaviour have been applied to the investigation of the office. Other environmental features have also been a research focus but it is beyond the scope of this review to deal with them all in depth. To indicate the range of issues which have received research attention a table which summarises key findings of a comprehensive series of studies carried out by the Buffalo Organisation for Social and Technological Innovation (Brill, Konar, Margulis and BOSTI 1984) is presented. Two further areas of office space research are then mentioned because of their focus on the processes by which offices are created: studies of the planning process, and studies of worker participation in planning. The major critiques of office space research are then presented before summarising the findings of office space research.

2.4.1 Degree of enclosure

A major research focus has been the investigation of the effects of degree of enclosure provided by a physical environment on office worker perceptions, attitudes and behaviour. Brill et al (1984) defines enclosure as

the nature and configuration of the physical barriers that separate an employee's workspace from other areas in the office such as co-workers workspaces, aisles, storage and conference rooms Physical barriers, while most frequently walls or panels can also include file cabinets, large plants or movable screens workspace enclosure is largely a function of the number and height of enclosed sides

(Brill et al 1984:89)

Enclosure is the most obvious change in the physical environment which occurs in the move from a closed to an open plan office. Specifically, degree of enclosure has been related to perceptions of privacy, ratings of environmental and job satisfaction and to communication and productivity.

The study of the effects of degree of enclosure is complicated by the tendency to allocate individuals to workspaces of different levels of enclosure based on their position in the organisation's hierarchy (Sundstrom, Town, Brown, Forman and McGee 1988), and because the introduction of an open plan working environment has usually occurred in conjunction with other organisational changes such as changes in structure and job description.

- **Perceptions of privacy**

Degree of enclosure has been found to be a strong predictor of perceptions of privacy (e.g. Sundstrom, Burt and Kamp 1980). However, workers of different type have been found to perceive their environments in different ways, because of the ways in which others behave towards their degree of enclosure. For example, having a door which closes is a stronger predictor of privacy for a manager, than it is for a typist secretary, because of the ways in which other organisational members perceive each closed door. (i.e. people are more likely to enter the door to a typing pool without knocking whereas they may be hesitant to knock on a manager's closed door).

Sundstrom, Herbert and Brown (1982) found that a decrease in satisfaction with privacy associated with a move from a conventional to an open office was related to a decrease in confidentiality of communication.

- **Job satisfaction and environmental satisfaction**

Degree of enclosure was found to relate to both job satisfaction and environmental satisfaction (e.g., Sundstrom et al 1980). Other researchers have sought to establish the reasons for variations in reaction to a change in office space. For example, Zalesny and Farace (1987) investigated support for three hypothesis which predicted the effects of moving from a closed to an open plan office. Each of these perspectives provided different reasons for reactions to a new office type. A social relations approach predicted an enhancement for all employees resulting from the increased quality and level of social interaction and communications. Physical proximity may result in increased opportunities for the development of interpersonal

relationships which may result in high levels of interpersonal attraction, satisfaction and motivation.

A socio-technical perspective predicts that employees' work experiences vary with the technical and social systems that exist at work. An enclosed office provides a "private, identifiable and defensible" work area which makes up the physical and personal boundaries of an employee's work. Zalesny and Farace (1987) differ in their interpretation of the likely effect of a move to an open space from an earlier study carried out by Oldham and Brass (1979) who predicted a negative reaction by employees to an open plan, because of decreased autonomy, task identity and feedback from others regarding work performance. By contrast, Zalesny and Farace (1987) believed that the absence of physical barriers would give individuals a broader and more complete perspective of their work in relation to the general flow of all work in an office because of the increased information about others' work. They predicted that employees would experience a decrease in perceived personal privacy but an increase in task identity in the move to an open plan.

The third prediction was made on the basis that work environments communicate information symbolically, in addition to supporting work activities. The environmental symbols represent the social order and individual's places in it. Furnishings and office design convey information about organisational status, thereby regulating interpersonal behaviour across organisational levels. Open-plan offices change the degree of status by distributing them to all employees. This is likely to improve the work setting for employees at lower levels but to result in a loss of environmental symbols by those at higher levels. The environmental cues which communicate, reinforce and legitimise individual differences in formal authority, activities or competencies lose their meaning when all employees have access to them. Zalesny and Farace (1987) suggest that according to this perspective, organisational position should be important in predicting employees' actual and expected physical settings and in influencing their reaction to a change in work setting. Whereas the social relations and the socio technical approaches predicted the same reaction for all employees, the symbolic meaning perspective suggests that

employees in positions with high and low status, will report differential ratings of physical setting, perceptions of their job's characteristics, work satisfaction and perceived privacy. Those of high status will report low ratings and decreases, whereas those with low status will report positively and increases. They found that professional workers were affected least by a move to an open plan, and managerial and clerical staff the most, which they interpreted to support a symbolic meaning perspective.

- **Communication and productivity**

Those who argue for 'open plan' offices claim that communication within organisations improves when people have more visual access access to one another¹. This is argued to contribute to the efficiency of an organisation in a number of ways. The first improvement occurs through reducing the time for information to be exchanged. The second, and less direct, is an improvement in office worker morale through having more satisfying social relations.

Evidence from studies investigating the claim that communications improve in an open plan have been mixed. Sundstrom, Herbert and Brown (1982) review findings which suggest that while interdepartmental contact and supervision improve, the ability to carry out confidential conversation deteriorates. In their own study, Sundstrom et al (1982) found that satisfaction with communications did not change for three groups of employed after a move to an open plan office.

Brill et al (1984) described eighteen aspects of office space, and investigated the extent to which these factors related to four "bottom line" measures: environmental satisfaction, ease of communication, job satisfaction and job performance. The aspects were grouped into four general areas:

¹ Other arguments in favour of open plan include cost reductions relating to the requirement for fewer lighting fixtures, construction costs and simplification of heating, and ventilation systems (e.g., Duffy 1971). An in depth analysis of these factors is beyond the focus of the present discussion.

- **Workspace:** physical characteristics of the workspace and its immediate surroundings. These are physical enclosure, floor area, layout, furniture and windows.
- **Ambient conditions:** facets of environment which are sensed and are provided and controlled by specific building sub-systems. These are temperature and air quality, lighting and noise.
- **Psychophysical constructs:** more complex phenomena which are affected by several facets of environment simultaneously and are manifested as a state of mind or through set kinds of behaviour. These are privacy, communication, path finding, comfort, display and personalisation, status communication and appearance.
- **Facilities design and management:** These facets deal with policy about design and use of the environment. They are participation, flexibility and occupancy.

2.4.2 Office Space Planning Techniques

Research on office space planning has been largely undertaken by environmental designers who have been keen to develop techniques useful in improving the usability of the environments they design. Techniques include using interviews of present office workers to plan new offices (Davis 1972), through activity analysis (Tong and Ellis 1986), or behavioural mapping (Kates and Adams 1982).

New Zealand research has been carried out by groups based at Victoria University's School of Architecture. For example, the Centre for Building Performance Research held a seminar entitled "Total Performance of Buildings: How to be Sure your Clients are Getting What They Need and Not What You Want", which sought to provide architects with a systematic way of assessing clients' needs, selecting and negotiating appropriate accommodation.

A number of methods and types of information can be used to determine the behavioural requirements of one organisations (e.g., Davis 1972). These include:

- structured interviews with both executive and line management with focus on attributes of particular work subsystem and relationship to the larger organisation and other subsystems;
 - organisation structure and policy documents;
 - spatial descriptions of the work flow, activity, communication and interaction patterns, ratings of tasks performed by staff, descriptions of felt needs in the perceptual qualities of the space and future trends affecting the group's function and environment; and
 - Systematic observation of the environment and behaviour taking place within it
- **Behavioural science information**

Some research has examined the ways in which office design can make use of psycho-social criteria (Sloan 1972), the utility of behavioural science research (Churchman and Ginsberg 1984; Moleski 1972) and take account of organisational variables and human values in office planning (Moleski and Lang 1982).

The problem of relating the behaviour of the users of an environment to the design of that environment is a two-step process. The first step is the determination of the behavioural needs of the users. The second is the translation of these needs into physical environmental components.

Basic issues in the analysis of behavioural patterns in the context of the physical setting include the following:

- behaviour is dynamically organised and a change in any component of the setting will result in a change in the characteristic of any component of that setting, therefore analysis should determine the ongoing patterns of behaviour that will remain constant, when the organisation changes or modifies its environment; and

- to understand the behavioural components of an environmental ensemble in holistic terms, three units of behaviour must be analysed, both as separate entities and as interrelated components. These three components are organisational, social and individual goal directed behaviours.

2.5 Critiques of Office Research

Ferguson (1983) provides three main critiques of the office space research.

- **Limited generalisability**

His first point is that conclusions drawn are based on case studies of small numbers of settings and the methods used have lacked appropriate experimental controls and therefore have limited generalisability. He cites the investigation of differences between open and closed offices by administering surveys to similar organisations in different types of environments, or by comparing the reactions of workers before and after moving to a new, open plan office as examples.

- **Subjective data**

Second, Ferguson (1983) criticises the type of data gathered. He believes that studies which rely solely on subjective measures lessen the ability to generalise and apply findings to other settings. He believes that data collected via self report surveys which assess the attitudes, values and beliefs of participants should be complemented with the use of observational and archival techniques to gather information about the physical environment, the organisation and the participants. As well as increasing the generalisability of findings, collecting multiple measures of the same property enables an assessment of convergent validity.

- **No investigation of causal links**

Finally, the design of studies has limited conceptual development by not allowing causal links between variables to be investigated. Most studies, for example, field research projects, collect

correlational type data which may establish that two or more variables consistently occur together. However as these designs do not meet the rigours of experimental design, through features such as random assignment of subjects to control groups, they are not able to determine the direction of the relationship. Ferguson (1983) believes that the lack of testing assumptions about the direction of relationships has limited theory building and the integration of design research into practice.

- **Need for richer data**

Nearly a decade later, Carlopio (1992) makes a number of points regarding improving understanding of the relationships between the physical environment and attitudes. In order to improve understandings and to study these relationships in more detail, he believes that it is necessary to "apply richer conceptualisations of the characteristics of both work and the physical environment that matter in terms of employee perceptions" (p152). This then defines both the objective characteristics which are considered and measured, as well as the outcomes for which explanations are developed. He proposed three steps for achieving this. The first step is to supplement the general work and office outcomes already studied with a series of facet specific measures which have been found to produce different results (Brayfield, Well and Strate 1957). A second step is to explore the effects of workstation artefacts on these outcomes for example, the effects of personal computers and ergonomic furniture. The final step is to examine the complex, interactive effects among these variables, office type and job types, in addition to the simple, main effects which have received attention.

2.6 Summary of Literature Review

The purpose of this review has been to draw together the theory and research which has contributed to the study of office planning. This review has highlighted the contributions made by the environmental design field to the study of office space. Attention has been drawn to several areas of study within this area of research namely:

- establishing a relationship between physical features of the environment and environmental perceptions, for example identifying that degree of enclosure is a major factor in perceptions of privacy
- establishing a relationship between features of the physical work environment that relate to work related attitudes and behaviours such as perceived well being, ease of communication, environmental satisfaction, job satisfaction, and job performance
- comparing the contribution of different features of the physical environment to attitudes and behaviour and identifying the main factors involved.

However this research has most practical relevance to professional designers involved in office space planning and has limited application for managers involved in this activity. Becker (1981) pointed out that the contribution of managers to the office planning process is significant but has not received attention in the literature. This lack of attention was traced to influential studies which concluded that the physical work environment did not contribute significantly to worker attitudes and behaviour and therefore should not be a focus of management activity.

The review then outlined the literature on the two issues which form the focus of this study: worker participation and worker privacy in office space planning. Before focussing on the context of office space planning, key theories and findings were presented on worker participation in decision making and on factors relating to privacy. The purpose of providing this wider level of information was to familiarise the reader with the issues relating to the investigation of participation and of privacy. Theories relating to worker participation in general were presented with the purpose of highlighting the range of reasons motivating managers to involve their staff in organisational decision making.

Privacy was demonstrated to be a complex concept to investigate. In particular the review highlighted the issue of whether "privacy" exists as a perceptual or behavioural attribute of an individual or as a feature of the environment independent of the individual.

These two dimensions were then brought into the arena of office space planning and Brill et al's (1984) research relating to participation in office space planning was outlined. This was followed by a summary of key findings related to perceptions of and planning for office worker privacy. These dimensions were demonstrated to be key issues involved with the planning of office space for the professional designer, but more importantly for the office manager. It is the office manager who has to make decisions about whether to, and if so, how to involve workers in the planning of office space and provide for worker privacy.

CHAPTER 3

RATIONALE

This chapter places an investigation of office space planning in the context of management practice and the relationship of organisations with the wider world (involving legislation, social and economic trends within New Zealand), and develops the research topic.

3.1 Office Space Planning as a Management Responsibility

Office planning decisions are one of many types of decisions facing managers in organisations. Unlike issues such as leadership and motivation, there is very little emphasis on the design of physical environment as a human resource issue. The field of human factors and ergonomics does address questions relating to improving the physical fit between individuals and factors in the work environment, but the field of "macro-ergonomics", which considers the social and organisational context, is in its infancy in the English language literature. Decisions about the physical work environment may be regarded primarily as financial rather than human resource related and therefore classified as "one-off" capital works expenditure as distinct from ongoing personnel costs. However, office space planning does share a number of features with the other types of decisions made in organisations. Office space planning not only involves deciding which outcomes are desirable, it also involves the selection of process or way of making decisions, for example, analysing the relative merits and costs involved with staff involvement.

3.2 Economic, Technological, Social, and Political Situation of Organisations

Office space planning shares the context of an organisation in the wider economic, political and social spheres. For example, the economic downturn of the late 1980's and early 1990's, due to world wide recession in combination with the introduction of new technologies, has forced many organisations to change work systems and practices. This

has led consequently to changes in organisational structures and staffing requirements. In the New Zealand situation, social and political conditions such as high levels of unemployment, which are in part due to the restructuring of the domestic economy, have affected state funded organisations in a number of ways. Social service delivery agencies have had to cope with increasing numbers of clients as well as increased accountability requirements. Deregulation and the introduction of contestable funding has meant that other state funded organisations have to employ people with different types of skills (eg. marketing) in order to obtain, secure and deliver on contracts. The introduction of new industrial, human rights and health and safety legislation may also have had implications for organisational planning.

Brill, Margulis, Konar and BOSTI (1984)) point out that people are generally demanding more participation in decisions affecting their lives and that this expectation also relates to decisions about the physical office environment. The benefits of participation include process factors (eg meeting needs for self esteem, self actualisation and autonomy and improved morale and attitudes towards management) as well as outcome factors (a better fit between the person and the physical work environment).

3.3 Researching Office Space Planning

To study the dynamics and effects involved with planning office space, it is necessary to ensure that there is a common understanding about what forms the focus of investigation. First, it is necessary to clarify what is meant by "office". As Parsons (1976) points out there are a number of common ways in which this word is used:

An office can mean the working space (large or small) for a single individual, the collective space (large or small) for an organisational subdivision, e.g., a department, or the entire space for an organisation's office workers within a building. (Parsons 1976:187).

In a similar way, when studying the behaviour within organisations it is necessary to be clear about whose behaviour is being studied. Possible options include organisational behaviour, group behaviour or individual behaviour. Inkson (1987) points out that this issue concerning which 'unit of analysis' is the most appropriate perspective for studying organisational behaviour is one cause of debate within the New Zealand field of organisational behaviour research. It may not be necessary to select one particular level of analysis when studying the planning of office space. However, it is crucial that when reporting findings on office planning, that the meaning of office is clear, as is for whom any findings hold.

3.4 Worker Participation

As has been outlined in the literature review, Brill et al (1984) believe that participation in the design and planning of the workspace should be analogous to participation in making decisions about other aspects of the organisation, and they locate the issue in a wider context in which people are demanding more participation in the decisions affecting their lives. They believe that a high performance office environment is dependent on involving the performers, as they are the experts about work and the extent to which the environment supports it.

They state:

participation in resolving organisational issues helps to meet their needs for self esteem, self actualisation and autonomy, and improves morale and employee attitudes towards management. It is assumed that workers participating in decision making are able to exercise initiative and creativity which lead to increased motivation, involvement and performance (see King, Struett & Fiedler 1978; Hackman, Lawler & Porter 19; Vroom 1970)
(Brill et al 1984)

Their research found that the environmental satisfaction of employees who participated "as much as they wanted" increased in their new environment and these employees rated their environment more supportive and satisfactory than did non-participants. The job satisfaction of participants increased after participation, even before improvements were

made. Brill et al (1984) identify a number of benefits and obstacles to participation which are tabulated in Appendix 1.

Based on previous findings which suggest that workers' ability to participate in office space planning may be desirable for a number of reasons, this research investigates the first general research question.

General Research Question - Participation

Should management theory and practice give more attention to worker participation in the planning of the physical work environment?

Previous research has provided workers with the opportunity to indicate on a list of environmental features the extent to which they participated in decisions about that issue. For example, Brill et al (1984) asked three different categories of worker about the extent they participated on six different issues, whether it was by making a decision, by providing information, providing an opinion, or not participating at all and then related this information to ratings of job satisfaction and environmental satisfaction. The findings of this study found that workers had greater job and environmental satisfaction when they had actually made decisions rather than only providing information or comment. However, workers who had participated in any way had higher job and environmental satisfaction than those who had not contributed at all. The areas in which they were most concerned to participate in were selection of furniture, workspace location, workspace size and colour scheme. Choosing where to put equipment and planning workflow were the most common issues workers were asked participate in, yet were of least importance to the workers interviewed. Brill et al (1984) interpreted increased job satisfaction as a function of the action of participation, whereas increased environmental satisfaction was attributed to improvements in the environment which resulted from participation.

The present study is designed to examine the decision making process in more detail, in order to understand the dynamics between office worker participation in planning and the attitudes, perceptions and behaviour of office workers. Therefore a number of specific research questions were generated.

Specific Research Questions (Participation)

(1) Attitudes to worker participation in office planning

- How did workers expect to participate?
- What were manager's attitudes to worker participation?
- What kinds of decisions did office workers participate in?
- How did they participate?

(2) Perceptions of participation in decision making

- How did their participation differ from that expected?
- Did office managers and office workers perceive participation in decision making in the same way?
- Did office managers and office workers perceive the outcomes of decision making in the same way?

(3) Perceived effects of participation on work attitudes and behaviour

- How did workers and managers perceive involvement in decision making to affect work behaviour and attitudes?

3.5 Worker Privacy

Privacy has been identified as a key factor in the way in which office workers describe their work environment. It is a difficult term theoretically as it can be used to describe a perception as well as set of physical attributes.

According to the Concise Oxford Dictionary of Current English Usage (1990)

Privacy means ...

- *the state of being private and undisturbed*
- *freedom from intrusion of public attention, avoidance of publicity*

Private means

- *belonging to an individual, ones own person (private property)*
- *confidential, not to be disclosed to others*

- *kept or removed from public knowledge or observation*
- *not open to the public*
- *for an individuals exclusive use.*
- *(of a place) secluded, affording privacy*

As has been described earlier, privacy is one factor which has received a lot of research attention, both to identify which physical features relate most to worker perceptions of privacy and also of the effects of privacy on a number of worker related variables. For example, perceptions of increased privacy have been related to improved environmental satisfaction, and ease of communication (e.g., Brill et al 1984) as well as related to increases in health and well being (e.g., Kiltzman & Stellman).

While the Oxford Dictionary definition is interesting and even informative, it was decided to build on previous studies by treating worker privacy as an outcome of the planning process, and then to identify the role of management in planning for this privacy. In this research it was decided to adopt Altman's (1976) and Archea's (1977) concepts of privacy. These involved the ability to have control over access to others and being accessible to others, partly determined by physical design features, such as enclosure and partly by behaviours, such as the control of territoriality and of personal space. Too much contact with others results in feeling crowded; too little in feeling isolated.

Brill et al (1984) identified three aspects contributing to privacy in the office. These were control over accessibility, control over distractions and interruptions, and speech privacy. Control over accessibility involves the individual's ability to limit the undesired impact of the presence of others, and may be achieved through controlling access to the workspace, and the ability to screen out unwanted visitors and phone calls. Whereas control over accessibility refers to a situation where others are meant to be around, control over distractions and interruptions refers to the ability to control the unintentional or accidental effects of being near others. Examples of distractions include those from seeing others while working and interruptions created by people as they stop to chat. Speech privacy

refers to being able to control who receives sensitive information about one's self and others.

Based on Brill et al's (1984) classification and previous findings, a second general research question was developed.

General Research Question - Privacy

Should management theory and practice give more attention to worker privacy in the planning of the physical work environments?

As a main focus of this study was to examine the extent to which managers planned for these three aspects of worker privacy, a number of further research questions were developed. These questions are designed to identify the factors workers believe contribute to perceptions of privacy in the office and how it effects their work attitudes and behaviour.

Specific Research Questions (Privacy)

(1) Attitudes to worker privacy

- What level of privacy did managers and workers expect?
- Did they share the same view?
- How did managers plan for privacy?

(2) Perceptions of factors affecting worker privacy

- What factors did office workers and managers believe affected their ability to control their levels of accessibility, distractions and speech privacy?

(3) Perceived effects of privacy on work attitudes and behaviour

- How were levels of privacy perceived to affect work behaviour and attitudes?

3.6 Research Assumptions

Finally, in addition to investigating the general and specific research questions cited above, this research was based on a number of assumptions which have not been addressed in the literature and require further information before research questions can be generated. These arise mainly from beliefs held by the researcher based on her own experience of office space planning processes and outcomes.

- **Experience in Office Planning**

Managers, or others responsible within organisations for decision making about office space, are unlikely to have undertaken such a task before and are likely to bring a set of assumptions about what can be achieved through a change in office space. For example a change in the office space is often associated with other changes in the organisation and the design is often expected to represent symbolically a change in practice.

- **Multi-Disciplinary Nature Of Planning**

The involvement and interactions of a variety of professionals, including organisational members, the design profession, technology experts and trades people who each convey information for different purposes is expected to lead to unplanned outcomes.

- **Symbolic Meaning**

In addition to Farace and Zalesny's (1987) findings that the symbolic meaning of space contributes most to employee reactions to a change in office space, the physical environment may further serve to symbolically reflect an individual's or work group's effectiveness, bargaining power or status within the organisation.

To summarise, the research problem addressed in this thesis is the identification and consideration of factors involved with managers' planning of the process of making decisions about office space and the process of planning for the specific environmental

outcome of privacy. This research question is addressed by analysing the decision making process in seven organisations by interviewing employees, managers as well as one professional involved in office design. The research will analyse the process, dynamics of decision making and of perceptions of privacy.

CHAPTER 4

METHODOLOGY

4.0 Introduction

This chapter describes the methodological approach taken in this study of the role of management in the planning of office space in organisations, focusing on decisions about worker participation in decision-making and worker privacy. The effects of these decisions on the behaviour and attitudes of workers was also investigated.

This chapter describes how the research was undertaken; the sample, the instrument, data collection methods, data preparation and the techniques used to analyse the data. Brief mention is made of unanticipated problems, and how these were dealt with.

4.1 Sample

In order to study the role of managers in the planning of office space it was decided to locate organisations which had recently changed their office space and to sample the views of managers and office workers. Through personal networks, the researcher learnt of six organisations in which offices had recently been rearranged or moved. A seventh situation, in which an office was being planned, was identified during a pilot interview.

An appointment was made by telephone with the person or people identified as having responsibility for accommodation issues. At an initial meeting, the purpose and method of the study was explained and how they and others in the organisation could contribute, by way of semi-structured interviews with them and some of their staff, each interview lasting approximately an hour. This information was also provided in letter form, along with a copy of the two interview schedules, for those who wished to have a copy for their records (Appendix 2).

Each person contacted agreed to be interviewed, and also arranged for a sample of his or her staff to be available for interviewing. In one of these cases, this agreement was subsequently withdrawn, because of organisational restructuring involving redundancies and participation in the study was felt to be an unnecessary additional pressure. The sample of staff within each organisation was intended to include a range of occupations and hierarchical levels. However, selection depended on subject and manager-determined availability. In two cases two members of the organisation were interviewed together as they worked on the same projects. While interviewing at one site, it was possible for the researcher to interview the architect and attend a meeting at which alterations to the office space were discussed.

- **Details of sample**

Information was gathered from the following sources:

- **interviews with seven individuals** who had been delegated responsibility for coordinating the planning of office space within their organisations, all of whom had managerial responsibilities
- **interview with 30 individuals** who worked in the offices which had moved or been rearranged
- **an interview with one architect and a project manager** responsible for one organisation
- **observation of a meeting** organised by the management of one organisation to discuss future developments with the architect and at a series of meetings held to plan the rearrangement of office space of a work unit, including one with an office furniture specialist
- **organisational records** including the minutes of meetings at which office space planning was discussed, and material about the nature and scope of the organisation's work, and details of organisational structure

Most interviews and meetings were tape-recorded. Equipment malfunctions meant that 2/30 of the staff interviews were almost totally inaudible, and therefore not included in the

analysis. A further two contained some inaudible sections but were included in the analysis.

Table 4.1 Description of Sample

Organisation	Number of Staff interviewed	Features
Central Administration, Christchurch Polytechnic	3	<ul style="list-style-type: none"> • about 40 people • new organisation formed out of two units, aiming for better utilisation of staff and for expansion of Polytechnic
Christchurch Star newspaper	1	<ul style="list-style-type: none"> • about 200 people • move to new premises after organisation has shed staff and adopted new technology
Department of Social Welfare	12	<ul style="list-style-type: none"> • planning for large organisation of about 600 split into 4 offices of about 120. • several people in organisation involved in planning & architect employed by DSW • buildings leased • moved office
DSIR - Antarctic	5	<ul style="list-style-type: none"> • about 20 permanent staff and 6 casuals move from town to new building at airport site operations & support parts of organisation brought together, • building owned by outside organisation who employed architects
Health Promotion Unit, Canterbury Area Health Board	6	<ul style="list-style-type: none"> • 27 in Health Promotion Unit • part of Primary Health Division • brought staff of unit together into space already occupied • new unit, organisational structure developing • information and resource dissemination important
Office Service Unit, Lincoln University.	7	<ul style="list-style-type: none"> • 20 in OSU, established as part of registry redevelopment • new unit formed from staff out of other registry functions, aiming for greater utilisation of staff
Reserve Collection, University of Canterbury Library	Group	<ul style="list-style-type: none"> • 2 Fulltime , 2 Parttime staff • Small unit, with ill defined work area, makeshift equipment.

At the Christchurch Polytechnic, Lincoln University and the Department of Social Welfare, a new type of organisation was formed in conjunction with the move. At DSIR and Health

Promotion, members of the organisation who had been located in physically separated offices were brought together. At the Star, staff who had been located on a number of floors were located on one floor. In the Reserve Collection, additional space had become available for an office for the Head of the Section, and it was appropriate to reorganise.

- **Type of position**

Details of workers positions are provided in Appendix 3.

Table 4.2 Sample Description by Job Category

Job Category	Number of Respondents
Executive Manager	3
Supervising Manager	3
Professional/ Technical	9
Personnel Managers	3
Accounts	2
Salaries/ pay	2
Reception/ Secretarial	3
Typing/ Data entry	3
Works & Services, Maintenance	3
Other Support	1

4.2 Instrument

Two parallel semi-structured interviews were designed, aimed at finding out:

- the involvement of each subject in the planning process of office space within their organisation
- the extent to which factors identified as contributing to privacy perceptions were considered as part of this process
- the ways in which the privacy provided by the environment affected subjects' behaviour and attitudes

One schedule was designed for those with primary responsibility for managing or coordinating decision making about office space, while the other was for subjects who worked in the moved or rearranged office space. Both schedules sought from each subject, his or her position in the structure and function of the organisation, defining features of the organisation and management style and a description of the decision making process resulting in the present office arrangement. The first schedule then sought the rationale for decisions made, and the extent to which privacy issues were considered in decision making. The second schedule focused on factors contributing to each subject's privacy and his or her perceptions of any resulting effects on their attitudes and behaviour.

4.3 Data Collection

- **Interviews**

Interviews were carried out at each organisation, either in the workspace of the subject, or in an interview room. With each subject's permission interviews were tape recorded. Interviews varied in length between twenty minutes and two hours. While the recording equipment was set up and tested, each subject was given a half page summary outlining the research and the format of the interview. If a problem with equipment was identified, notes were also made by hand during the course of the interview. The interview schedules were used as a guide, rather than prescriptively as this allowed unanticipated issues to be examined.

- **Documents**

Documentation providing additional material about the structure and function of the organisation or which provided details of the planning process was also sought from subjects.

- **Floor plans and physical dimension**

Floor plans of the office spaces were also obtained, when available.

4.4. Data Preparation

Tape recordings of interviews were transcribed by the researcher, and by a word processing typist who was employed to transcribe on to floppy disc.¹ Transcripts were therefore available on disc as well as in paper form. The questions in the interview schedules were divided into seven sections based on subject area. When transcribing, each section was started on a new page to facilitate a comparison of responses, either among subjects performing a variety of jobs within one organisation or subjects performing similar jobs in different organisations. The researcher listened to all transcripts, correcting where necessary and noted instances of poor taping quality. The poor quality of some recordings meant that this process was very time consuming.

4.5 Data Analysis

• Participation

Information concerning the decision making process was summarised according to the scale of decisions made, by organisation and job type under the headings:

- organisational or work unit decisions
- work group level
- individual within work groups
- within individual's workspace

The types of decisions made under each category of heading were summarised and the level of worker participation categorised according to whether they:

- made decisions
- provided others with information
- had their opinions sought or
- had no voice at all.

In addition worker reactions and attitudes to each process were summarised.

¹ A confidentiality agreement was signed by this person.

- **Privacy**

Information about privacy was summarised by organisation and job type according to the following headings:

- ability to control others accessibility to their workspace
- ability to have confidential conversations
- distractions and interruptions
- ability to see/hear those they want or need to see/hear
- ability to be seen/heard by those they want to be seen/heard by
- ability to personalise their environment as desired

In analysing the material on decision making about office space four levels of environment became apparent. These were decision about the physical environment:

- for the organisation or work unit
- for work groups
- for individuals within a larger work area
- within an individuals workspace.

The information provided fell into a number of categories:

- factors considered
- priorities and constraints
- who was involved and how
- what was the outcome
- reflections / attitudes to process
- impact on privacy

The final chapter evaluates the effectiveness of the method in answering the research questions.

CHAPTER 5

RESULTS AND ANALYSIS

5.0 Introduction

This research examined the role of managers in office space planning with a focus on planning for participation of office workers and for office worker privacy. This chapter presents the findings of this research. The units of analysis, which were used to draw meaning from the data on planning for worker participation and privacy are described. The results are presented in two ways: a case study is used to illustrate the complexity of issues involved then the specific research questions generated in the methodology are addressed in turn.

5.1 Units Of Analysis

In the interviews of managers and workers discussions of planning issues were variously based on each of the meanings of "office" identified by Parsons (1976) mentioned in the Introduction: office as the entire working space for organisation's office workers within a building; as the space for an organisational subdivision or department; or the space for an individual.

Office worker and management expectations about, and reactions to, their participation in the decision making process varied according to each of these meanings of office. For example, none of the workers interviewed expected to have responsibility for negotiating the lease agreement for a new office building. Similarly none of the senior managers wanted or expected to be involved in discussions about the location of a pot plant within a junior clerk's workspace. As these different levels of "office" seemed to correspond with the material obtained in interviews, it was decided to examine office space planning within each organisation and for each job category, using the following stages of planning:

- for the whole organisation or department, involving selection of a suitable building or part of a building;
- for work groups within the organisation or departmental area;

- for individuals within a work group area;
- within each individual's workspace.

The present study attempts to look at the impact of all these levels by examining factors relating to planning for an organisation's office, planning for a work group's office, and planning for an individual's office. The same types of planning issues were found to occur at each level, for example, planning expenditure, size, location, orientation, types of facilities, and for public image. In addition decisions made at each level of planning were also found to affect the range of options available to other levels. For example, planning to spend a large amount of money on a public entrance or reception area might mean there is less finance available for office furniture.

5.2 Case Study: The Move to K- Block at Christchurch Polytechnic

5.2.1 Purpose And Selection of Case Study

The purpose of this case study is to illustrate the complexity of issues involved in office planning and to provide the reader with an overall sense of the dynamics involved with planning office space. The particular case study selected is the planning of K- Block which was designed to house the Central Administration unit and the Directorate of Christchurch Polytechnic. There was no particular reason for selecting the Polytechnic as a case study as each of the seven organisations studied would have highlighted unique complexities involved with planning. However, the Polytechnic particularly illustrates the ongoing role of managers in office space planning and the importance of external factors on the direction of planning. The original move to K-Block was only the beginning of a series of moves which were in response to changes in legislation, social expectations, economic conditions and location in the market place.

The case study begins by outlining basic information about the "office space planning" example studied. It then moves to situate the organisation in the wider world - the legislative, political, social and economic locale of the Polytechnic. It then briefly describes the style of

management affecting all those working in the organisation as described by management and workers. This provides a context to compare participation in office space planning with other management decisions made at the Polytechnic. The remainder of the case study describes the planning process at four levels of analysis: the organisation; the work group; the individual; and within the individuals work area. At each level the two themes of planning for worker participation in the process and planning for worker privacy and other outcomes are highlighted.

5.2.2 Description of Case Study

The new Central Administration Unit was established in 1986 and involved two existing groups of Polytechnic staff moving into an open plan office in the newly built K-Block. General Office staff and Registry staff had been working in separate buildings and had been members of different unions with a history of demarcation disputes on the Polytechnic campus. The General Office staff had been responsible for the areas of Information, Enrolments, the Polytechnics Telephone and Post system, and a Typing pool. Registry Staff had been responsible for administering Staff Salaries, Student Grants, the Polytechnic's Accounts and Finances.

The Registrar outlined a number of situations involved with the decision to created a Central Administration Unit and move to K Block. These are summarised in Table 5.0 which relates shows the relationship between external variables on the organisation and the subsequent demands in terms of space requirements.

Table 5.1 Influence of External Changes on Office Space Planning

EXTERNAL FACTOR	ORGANISATIONAL RESPONSE	SPACE REQUIREMENT
LEGISLATION State Services Act Education Amendment Act & "Learning for Life" Finance Act	Director becomes employer <ul style="list-style-type: none"> • change in role of Registrar from hands-on manager to strategic planning role • need to develop Personnel section • need to administer payroll • need for external auditors • need to negotiate conditions of employment on site • need for marketing skills within Polytechnic 	<ul style="list-style-type: none"> • need to locate Registrar with Directorate rather than with Admin staff • need to accommodate new staff • periodically need for private room to undertake audit • need room for negotiations to take place & for union consultations with members • need to accommodate new staff & upgrade reception area
SOCIAL CONDITIONS Demand from Community for Accountability	<ul style="list-style-type: none"> • provide for community input through Board & other 	<ul style="list-style-type: none"> • need for meeting room
ECONOMIC CLIMATE High Unemployment	<ul style="list-style-type: none"> • need to adapt to more students wanting more variety in level & length of courses 	<ul style="list-style-type: none"> • need to accommodate more students & provide the administrative service which support the students and the teaching staff
TECHNOLOGY	<ul style="list-style-type: none"> • wide spread introduction of computing 	<ul style="list-style-type: none"> • need to accommodate work - stations & cabling requirements
CHANGE IN MARKET PLACE	<ul style="list-style-type: none"> • need for Polytechnic to focus on marketing its courses & develop secure niche as education provider 	<ul style="list-style-type: none"> • need to accommodate marketing personnel • need to upgrade reception area

5.2.3 Management Style

One aspect of management's role in office planning for office worker participation and privacy is general management style of the organisation. This establishes the extent to which the decision making processes about the physical work environment follow the typical pattern for the organisation. It also helps to establish whether the views of management and workers coincide. This provides contextual information which may help to explain perceptions of planning process. At Christchurch Polytechnic managers and workers shared a similar view of management style as illustrated by the following quotes:

From the Registrar:

at Central Admin we are committed to open and 'something' management, with the 'something' being a source of staff tension am I part of making a decision and have a vote or veto or am I simply consulted This depends on 'materiality and number of people affected

From a staff member and typical of comments made by all four interviewed:

It's supposed to be open management in practice, it's not. It nearly is, I suppose like most things decision making is usually done from above the only decisions that I would make are minor ones about my own particular job.

Other comments on the management style included the attitude of management to staff. That if family were sick there was an understanding attitude. This indicated that there was a certain level of trust between staff and management on personal issues.

Other typical comments were:

I sometimes wonder if there is any organisation but you know that there must be because things get done and they try and consult you or inform you but sometimes I find that they don't because they are just too busy to bring it through...

We are conscious of working in a big place and that it does take time.

...lots of us participated, but putting it into practice, what came out of it, that wasn't democratic. That's not a criticism but it wasn't.

...we might complain about things but we go along with what they say. It's part of someone employing you...

5.2.4 Planning The Organisation's Office

• Participation

Planning for office worker participation in the decision making process about the move to K-Block began with the following decisions having been made by senior management of the Polytechnic. These included the location of the K-Block within the Polytechnic, to plan a two storeyed building, to locate the Directorate Suite, Registrar's office, Council room and the staff cafeteria were all located on the second floor and an open plan on the ground floor which would house the newly created General Administration staff and an Annex to the Ground Floor for the Printery. The total amount of space required was calculated on the basis of building codes and restrictions, and Public Sector regulations which set out the space entitlements of staff of different hierarchical status (e.g., a Grade One Clerk is entitled to 6 m²; a Grade Two Clerk to 9 m² etc).

Having made these decisions all staff were then asked to provide ideas for the new building. According to the Registrar, staff at all levels had a lot of input into the preparation of ideas for the new building, including the open plan area.

One staff member described her version of the decision making process.

...we were all asked about furnishings, colour schemes, etc. We all had a certain amount of input, but we didn't really get what we asked for because money was the main factor ...

After receiving ideas from staff, a brief for the building was prepared by the Polytechnic Buildings unit and was translated into Ministry of Work's format. The Ministry of Works transformed the brief into sketch plans and estimated the cost. The cost of the plans developed in this way was \$1.7 m. However, as at that time only \$1.5 m could be approved for Capital Works by a Cabinet Minister a smaller building was then planned and many features of the original plan developed with staff input were abandoned. Each time additional staff are employed this creates a space crisis and another major office reshuffles. At the time of the interview, the Registrar had already moving three times, and when the Finance section had expanded this created a chain effect. Finance took over the Salaries Section space, Salaries

moved to where the Printery had been and the Printery moved to another area on Campus. When the Personnel Section was established, extra space was taken from the tea room division. The Registrar described it well:

It's this ghastly domino thing: when you start stretching your wings some of the fledglings fall out of the nest

Each worker interviewed commented that the size of the building was a problem.

Staff also indicated that it was not just the original move to K-Block which they had concerns about. Comments were made on the slow response to problems which occur in the physical environment of the office.

....if things go wrong after contractors (builders, etc) leave, there doesn't seem to be a procedure for fixing things which should be done straight away

- **Outcome**

Aside from the restricted size of the building, the main issue for workers when considering the office as the organisation's space was on the air temperature. One staff member commented on the overall orientation of the building:

I would redesign the building, I'm not an architect or anything but the building is wide from north to south which makes it hot on one side, cool on the other and dark in the middle.

As part of the same issue, both managers and workers identified problems with the mechanical ventilation system. Apparently it had never worked properly, meaning there is "intolerable heat gain" in the Central Administration area according to the Registrar. Further problems developed when the unit was moved to build another office upstairs, something went wrong and water poured over a computer terminal and over the electrical switchboard.

5.2.5 Planning The Work Group's Space

- **Size and location**

The size of a work group's area was determined by regulations which set down space allocations for different types of workers, combined with the requirements of new technology and general agreements about how much space a group needed. The Location aimed to reflect

the change in role of the Registrar. The architect, having heard the new role perceived for the Registrar, planned an office opposite the directorate suite, including space for secretarial support, rather than in the area occupied by the Registry staff. One aim was to break down the sense of division between General Office staff and Registry staff. They were therefore allocated work space in the same open plan area. However, it was acknowledged that they would know what worked best for them so they were given the choice over where to place screens and what became known as the "great wall" was erected.

- **Type of working area and workstations**

The Registrar explained the background to the deliberate choice by management to opt for modular furniture and to have screened work stations rather than an informal open area:

we had a pattern of people facing each other sort of around a circle which seemed to be a rather informal forum for a prolonged chat for one or two of the staff I felt lucky if I was able to catch them working.

- **Decision making process - selection of modular furniture system**

Brochures obtained from a number of companies which designed modular furniture for open plan offices were circulated to staff, staff subcommittees and members of the Registrar's team. A decision was made to purchase a particular type of modular furniture on the basis that it was highly flexible and could easily be dismantled and shifted.

- **Outcome - visual effect, workstation inflexibility**

When the workstations were installed, they were "a bit like cells in a cloister". Subsequent modifications to the workplace have worked at opening spaces up, giving people more space, putting in more desks providing more opportunity for seeing other workmates.

While the screens and desk components were easy to take apart, flexibility of workstations was found to be severely limited by the "wire management" system. In order to move the screens, plastic conduit pipes containing telephone, power and computer cables needed to be

unscrewed and unbolted from the screens and the ceiling, new lengths of cable cut and alterations made to core tiles in the ceiling.

- **Changes since moving in - introduction of new technology, moves since**

Central Administration are making a move towards having one PC or terminal per desk, which takes up more space, when combined with an adding machine and a pad. Size of offices was determined by the Department of Education and based on the status given to position.

We were allocated positions and that's that. I was originally over by the wall and when the Salaries staff moved I stagnated to here.

When the Finance section needed more space, the Salaries section felt they were asked to move because :

... they looked to see who could move with the least amount of trouble I think they decided to move us because we would make the least fuss.

5.2.6 Planning The Work Group's Space

- **Management-location, privacy**

The Registrar was first located on the second floor but not in the Directorate. Eighteen months later a new room was created for the Registrar from a verandah off the Council room, and the newly appointed Deputy Registrar took over the first office. The verandah was glazed in and carpeted. This location supported the Registrar's role as Executive Secretary to the Council and the Chair of the Council also had a desk in that office which she used for 30 minutes once a week. However, the main problem was that access was either through the Council room or the Chief Executive Officer office, which started to be used more frequently, meaning that the Registrar was trapped either in or out of his office. When the Personnel section was created, it was the logical time for the Registrar to relocate:

We have a real problem between the Student Allowances and Salaries. I do think in the next reorganisation we are going to have to do something to soundproof, to give the Salaries section greater privacy and we bore that in mind when setting up the Personnel section next door.

When the Associate Registrar took up her position she was horrified at her workstation with high screens (eye level from standing) in the open plan. As she was involved in appointing all non-teaching staff she believed having speech privacy was essential. She believed that the lack of speech privacy had a major effect on her efficiency. For example, she had to borrow the Deputy Registrar's office to make phone calls which was time consuming and difficult; visitors had no sense of being able to have a confidential conversation (even though nobody else may have been interested in what was being said) and; when interviewing for positions she had to find an interview room.

Salaries officers who also dealt with confidential information believed that the lack of speech slowed down their work, because things could not be discussed without others hearing.

- **Staff - allocation, differences between individuals, lack of privacy**

The Salaries office moved from one of the areas with screens to an area with no screens. Staff found that they were now working more closely with others around - a system which worked most of the time, but because of the open space they were more inclined to talk. "If somebody is not busy then they will start a conversation." They felt this system did not work at times because not everybody had the same amount of work. In addition when the Salaries staff moved to the Annex, they did not realise that the communal stationery cupboard behind their desks was staying, and they had not anticipated other interruptions from people wanting to be let in from outside through a door to one side of their workspace. This door was intended for use by tradesmen only.

As far as allocating space goes they drew up a plan, and said that this is roughly the amount of space you're going to get and I can't see any way of fitting more in. Another factor was the computer and another worker who had wanted a window. There was only this area left. There was only a certain amount of space. They chose down the end because no-one would be walking past.

They described how one individual was able to create her own workspace boundaries.

When we moved to this area we put the units in the way they were supposed to go. We all have the same sized units. One of the part-time workers was away on the day of the move, and was not happy about being in the room anyway and pulled out the return and moved it to the end of the desk, pulled out the cabinets and puts a plant in and now has a space twice that of a neighbour who works full-time so it's a funny place if you want to push your wants and needs. Some people can get away with it and some can't. The decision making wasn't between us all. No one said to us, where would you prefer to sit. You can't sit there if you want. The others are temporary or part time. It was not a joint decision, as one person had decided to have a window.

They believed lack of speech privacy affected the efficiency of their work.

you have got to take the time to get up if it is important and urgent and write it down or whisper it. It also means that you don't know what the other is doing and if somebody is at lunch and somebody comes in to pick something up, I quite often don't know about it because we haven't discussed it. I have to go over to her desk and try and find out what it is

They were not satisfied and felt that it was unfair of management to expect them to work under pressure (meeting pay roll deadlines) with no confidentiality: they had written to management several times saying they were not happy but nothing had been done.

They just say do they best you can. But we can do better!!

5.2.7 Planning The Arrangement Within The Individual's Workspace

- Management-enclosure, open door policy, furniture choice, supervision

The Registrar compared the merits of each of his offices. He liked the first office because it was an interesting shape, had a solid door, with the secretary spaced between him and the public, but to one side so that a person could come through and didn't actually feel blocked by the secretary, but on the other hand couldn't rush through. The reconverted verandah had glass doors, which meant that people going up the stairs could see into the office, observing what the Registrar was doing and who he was with. Quite often somebody would catch the Registrar's eye, or try to signal that "they just wanted to talk for one minute, could you come out now". In addition this room was not soundproof. The third office had been a return to a solid door, and was more private and secure.

The Registrar, who was given an amount of money and told to find the furniture and equipment he wanted for his room, used a Christchurch firm to make "made to measure" wall units with cupboards underneath, and selected a standard computer, desk and return, and mobile drawers in rimu veneer.

The Associate Registrar had deliberately oriented her desk to regulate her contact with other people. Unlike her colleagues, she sat behind it when people came in.

The desk is between them and me it's a deliberate barrier between me and someone who comes in until they're where I want them

The Associate Registrar attempted to work on what she called an "open door" policy: when her door was open people were welcome to come and see her. However, when she closed her door she did not want to be disturbed. While she perceived this arrangement to work well for the Registrar and the Chief Executive Officer, people still knocked on her door and came straight in. She found this rude. Consequently, if she had an urgent report she either took work home or went to the Library and asked her secretary to put a note on her door saying she was not available.

Although the Associate Registrar could not see the people who she supervised, she was confident that staff who needed to see her could come to her. She did not feel that she needed to sit at the top end of the office and watch over people.

- **Staff-desk orientation, cabling limitations, confidential information**

Salaries staff were told that they could turn their desks around if it suited them better, but they have not. Computer cabling limited the placement of desks for two out of three of the staff members interviewed. Because they did not know who would be in the office when they were not at their desks, they were meant to turn the computers off when they left their work areas.

5.2.8 Summary Of Case Study

This case study outlined the factors involved with planning office space for the Central Administration Unit at Christchurch Polytechnic. It has illustrated clearly that office space

planning is a continuous process from the perspective of both management and workers in organisations. In this case, the building was too small and this affected the ability of the Polytechnic to adapt easily to changes demanded by legislation and the prevalent social and economic climate. Each time a new function was added to the Polytechnic's repertoire, there was a major reshuffle in office space, which one assumes was costly in time and resources. It also illustrated the differing strategies used by some individuals to improve on a particular allocation of space. One worker successfully increased her allocation by marking out her territory, and another by arguing that she was too highly paid to be wasting time trying to find a environment conducive to carrying out personnel business. The third strategy of sending notes complaining about general unhappiness due to a lack of privacy was not so successful, despite management awareness of the problem. The case study illustrated two further points: the effects of a lack of speech privacy seemed to have on the work ease and efficiency of the salaries section; and finally the way in which the location of the Registrar was used to symbolise a change in his role from a on-line to a strategic manager through his location near the Directorate Suite. The material in this study will be cited in the following section which turns to address the Specific Research questions outlined in the Rationale.

5.3 Specific Research Questions

This part of the chapter introduces into the analysis the material obtained from all seven organisations sampled, including that which has already been cited in the Polytechnic case study and turns to address each of the specific research questions generated in the Rationale. While the main focus of this analysis was on examining the planning of recent changes in office space, some of those interviewed also discussed their involvement with or knowledge about further changes. This information has also been included in the analysis, as an indication of the potency of office space planning as a learning process.

The first set of specific research questions deals with worker participation in office space planning, while the second set deals with office space planning for privacy as outlined in the Rationale in Chapter 3.

5.3.1 Specific Research Questions - Participation

5.3.1.i How did workers expect to participate?

Worker expectations of participating in office space planning seemed to vary according to a number of factors. These factors included satisfaction with the current environment, perceptions of management; personal attitudes about work; professional expectations; and satisfaction with the recent planning process.

- **Satisfaction with the current work environment**

As might be expected, some workers who perceived that inadequacies in their current work environment could have been avoided through their being consulted about their wishes, believed that they should have had more input into office planning. Location of power points was mentioned at three organisations, a lack of storage space, and type of lighting. A number of situations existed which led workers to feel that there was no point in participating in office planning. These included space limitation and awareness of financial restriction.

- **Perceptions of management**

Perceptions of management affected attitudes to participation in two ways. The first was the perception of management concern. Some workers felt that they were of low priority and consequently were disaffected from management. The other perception was of management's inability to make decisions or negotiate effectively with senior management on behalf of staff. Past or current experience of decisions made by managers affected this. All six workers at one workplace felt that their manager had not been given the authority he should have been, and while he sought the views of staff, the senior management team he reported to often overturned his decisions. The perception was that this management team made decisions with little idea about what people did in the unit which had major effects on the way in which people felt about their work.

- **Personal attitudes to work**

Irrespective of satisfaction or participation with their work environment there was an attitude held by a number of respondents that the "best thing was to just get on with the job that's what we're paid to do". Some of these workers were quite happy with their work environment, indicated by the comments of one worker:

if I came in on Monday morning and my boss had given my room a paint I'd be quite pleased about the fact that it has been spruced up. Others like consultation at every point. They grizzle if they don't get it. We're a little different here (in Supply/ Support, DSW)

Other workers, regardless of their perceptions of their work environment, wanted some form of input into decision making. This group was split between those who wanted to be part of any decision affecting their work situation and who generally favoured the consensus decision making approach and those who had a specific issue concerning them about their own working area.

- **Professional attitude to work**

A small number of workers did not expect to have to participate in decisions about their own personal office space. For example, a medical officer interviewed saw the provision of a room as the minimum working condition associated with her professional status.

- **Satisfaction with past office planning processes**

Satisfaction with office planning was related to attitudes toward participation. Knowing that decisions had been made according to rational and fair criteria was important. Perceived fairness seemed to be determined in relation to other workers sharing the same room or holding similar position. Those in environments where the amount of space and furniture had been allocated according to position in hierarchy did not expect to participate in a decision about their due amount of floor space. Two cases cited in which one person or a group appeared to have obtained extra resources - extra floor space, and a private room, with the support of management were regarded in one case with indignation, in the other with resignation as "typical of what happens when people push their own needs and wants above others".

- **Use of Experts**

The use of consultants with an expertise in office planning was favoured by some. It was felt that employment of such experts result would reassure workers that they worker in a "good and healthy" environment, and also decisions made were for considerations of worker function and health. This view was expressed by two Health Promotion workers that they would be happy for experts who "knew about workstations or with a knowledge of ergonomics" to be responsible for making decisions about workspaces. These experts would meet with staff representatives in order to gain information about the present layout and worker functions and ensure that people are located in close proximity to those they consult with most. In the Department of Social Welfare, an internal Health and Safety committee was perceived to represent workers concerns about occupational health and safety issues.

Being present at the time at which decisions were made seemed to affect perceived fairness. In two cases workers who were absent at a time in which staff had made a joint decision about shared office space felt "hard done by". This was despite other staff perceptions that they had been given the "best spot".

Attitudes to participation also varied by type of decision and type of worker. Workers were most interested in having input into decisions which affected their physical comfort and ability to carry out their work within their own work area as well as their accessibility to other facilities such as interview rooms, and photocopiers. The three receptionists interviewed included the general reception area into their perception of their work area. Because the range of decisions is discussed in more detail in the last specific research question on participation, the focus will now be shifted to examine managers' attitudes to worker participation in the recent office planning process.

5.3.1.ii What were managers' attitudes to worker participation?

Managers' attitudes to worker participation seemed to vary with four main factors. The first factor related to the manager's understanding of the authority he or she had been delegated and of the ways in which decisions were being made. The second factor related to the extent to which moving to the "new workplace" was associated with other changes in work practices. The third factor related to general management style and attitudes to worker participation overall. The last factor related to knowledge both about the range of options available and the managers' beliefs and understandings about the ways in which the office space planning affected office behaviour.

- **Perceived authority and understanding of decision making process**

As expected, managers tended to consult workers based on the understanding they had of their own or others' ability to make decisions. The managers interviewed believed that they would be able to make or delegate decisions about the office space to their staff. If negotiations at a more senior level were involved they expected decisions to be made fairly (as did workers) and decisions made to reflect their input. Each manager interviewed was located at different points in their respective hierarchies and was responsible for planning office space for different numbers of staff. All but one organisation, the Christchurch Star newspaper, were public funded organisations. Each organisation was facing a slightly different set of changing external and internal circumstances of which the change in office space was a part.

- **Organisational changes**

In four of the organisations, the change in office space represented a move to a new organisational structure in which relationships between individuals and groups of workers were expected to change in order to improve the coordination of workflow. In two cases, managers knew that two groups of workers would not choose to share a room as there had been a history of industrial disputes between groups of these workers, thus participation in terms of work group location was not sought. In one of these cases, the groups had choice over the placement of screens, in the other, screens were not supplied although they were requested by staff. Management said *"well, see how it goes to begin with"* and waited for the new arrangement to settle. The request had not been repeated at the time of interviewing.

- **General management style and priorities**

The management style was found to affect attitudes to participation in office space planning. All managers interviewed had sought some information from their workers.

As part of the Christchurch District Reorganisation of Social Welfare, staff were consulted initially (via internal news sheets) about existing problems and suggestions about ways of improving the overall service delivery of the organisation. The director wanted to take a "tabular rasa" (or blank slate) approach which disregarded all preconceived notions of what was considered appropriate or essential. The staff response to the invitation was disappointing. It was thought that this response probably stemmed from a sense of déjà vu: "we've seen it all before and where has it got us?"

- **Understanding of office worker requirements**

Attitudes to worker participation varied according to the managers' understanding of office workers' needs. In all organisations, managers had a basic understanding that workers needed to have some space to call their own which they could organise and personalise as they wished, barring the display of potentially offensive items (e.g. "girlie posters"). Interviews with workers revealed that this "freedom" was not always able to be translated into practice because of cabling systems, lighting preferences for VDU use, and storage provisions.

The Manager of the Health Promotions Unit learnt that her own attitude to office space, differed to that of her staff.

... if we get onto communication this is one of my big failures I didn't understand how important people's little patch, their pot plants and stuff were to them, because it doesn't matter to me. I'm not like that ...

This manager learnt by experience how important it was that staff be part of decisions about office space. The intense reaction of one staff member, who was away on the day of a move, resulted in a great deal of friction within the unit. To prepare for an upcoming move, she had employed a specialist to determine each programme's present and likely future accommodation needs. At the time of interviewing, a new building had been selected which "needed about a million dollars spent on it", and already she was aware of developing tensions:

... that hasn't given us a lot of joy, everybody's expectations of what will be up to standard will be different. What is for one person won't be for another..

Management attitude to staff participation was sometimes thwarted by those with the authority to make decisions. At the Office Services Unit at Lincoln and DSIR Antarctic, managers felt very badly that the information they collected about their staff's needs seemed to be ignored by the Section Heads team and the owners of the new building respectively:

...we then presented it [a briefing document] to the owners, who run an incinerator over there, because I think that was the end of reference to that article

5.3.1.iii What kinds of decisions did office workers participate in?

In the analysis of interview transcripts it became evident that participation of office workers in office planning occurred in two ways. The first way was by managers actively soliciting worker participation. Actions included delegation of decision-making to individual workers or groups of workers, inviting opinions through questionnaire, newsletters, verbal consultation or group discussion, or informing workers of decisions made in written or verbal form. The second way individuals were involved in planning was almost by "default". One example which illustrates this point is where a person in an open plan is told "you can choose where you want your desk to go". However, a person who has been allocated their own room is not specifically given such a choice. This point is relevant to the findings of Brill et al (1984) who suggest that participation in decisions about office space has an immediate effect on job satisfaction. It is also relevant to the question of whether quality of environment is more important to workers than participating.

However the distinction is not simply between those who had a room and those who did not because other factors interfered such as the location of power points, the position of windows and lighting, and the transparency of doors and walls.

Aside from the active invitation from managers, there were a number of other influences on workers' ability to participate in decision-making. These included the other people with an interest in the planning process and structural features of the building. They included: professional designers such as architects and interior designers, and other experts who helped design particular features, provided advice, or project managers who coordinated the planning process; those involved with the construction of the building such as builders, electricians, telecommunications specialists and engineers; and those with an interest in the building itself or in the organisation itself. The latter group included senior managers, owners of the building or other tenants. Structural features of the building influencing workers' ability to participate included: the overall shape and structural means of support (e.g., columns); the accommodation requirements of particular bits of machinery (for example, heavy safes); and the priorities that are given to different work groups.

5.3.1.iv How did office workers participate?

In five of the organisations surveyed, workers had completed questionnaires. At DSIR-Antarctic the information was collected by the two senior staff members interviewed. They had been delegated the task of sorting out the accommodation. The information sought in the questionnaire concerned the number of square metres required and what staff really wanted in their room. It was collected as a brief for the owners of the new building who were employing the architects. The two senior staff members said:

every individual was given that opportunity. Now not every individual replied, which was quite interesting thought at the time if there ever was a series of grizzles they would come from people who didn't want to put in their bit.

After collecting this information, some time was devoted to producing a conceptual plan which reflected all the information. A "relationships" diagram, which indicated the need for particular individuals and work areas to be accessible to and from others, was produced to accompany the description of the requirements of each working area. An example of the statement of requirements is the brief prepared for the Receptionist at DSIR.

A. RECEPTION

This area obviously will create the first impression for people visiting the Division therefore it must be of high standard.

The area will house:

10 sq.m Receptionist/Typist

- 1. Wrap-around reception desk*
- 2. Communications Console which will handle phone traffic and traffic to Scott Base via radio. (Note: It is probable that all will be handled through a PABX in the future).*

The area will house:

30 sq.m Public Reception Area

- 1. Displays -photographic and kind*
- 2. Public seating for up to six*
- 3. Book, pamphlets/giveaway/sales*
- 4. Pot Plants*

Access is required direct to the secretary / typist to ensure there is a backup when reception is not staffed. This area could be considered the hub as all sections will require, to one degree or another, ready access to the area.

A document containing this level of information was then presented to the owners of the building. The architects had meanwhile decided on an overall shape of the building. Once the shape of the building was established a site plan was circulated and individuals were told the location of their particular work area and were asked whether they had adequate space.

The manager appointed to establish the Office Services Unit (OSU) at Lincoln University had responsibility for developing the office space requirements for the OSU. However, from the start the levels of responsibility delegated to this manager from the Registrar and the Section Heads were unclear. One member of the section heads team employed a consultant who came in and looked at the area and drew up a floor plan of where people were going to sit without any consultation with the Manager. The Manager was appalled as it did not incorporate the idea of little functional groups, where people doing tasks needed to sit together¹.

¹ This was a similar situation to the planning for the DSIR Antarctic Centre because it was the senior managers who communicated with the architect rather than the manager of the unit directly.

Diagrams was drawn to work out the location of various work groups in relation to other sections of the Registry. The Manager of the OSU responded to floor plans prepared for the Assistant Registrar Planning, by the firm employed to design the office area. His commented that before working out furniture requirements there were a number of structural features he thought needed changing, or adding. These included points about the placement of walls and doors and the need for counter space which provided speech privacy.

Floor plans prepared by designers and architect formed the basis of discussion in three of the organisations sampled. A floor plan formed the basis of the discussion attended by the researcher. It was interesting to note that it took the meeting of senior managers and staff about five minutes to orient themselves in the floor plan. This throws some doubt on the ability of staff to respond effectively to a floor plan posted on a notice board. At Lincoln, items of furniture were made into cut-outs which could be placed on the plan. Managers had responsibility for the overview of the unit of the organisation they were responsible for. The allocation of workgroups to particular areas in a building was nearly always done at management level.

At DSW, where one large office was going to be split into four, the manager had visited a dozen or more offices, and

... talked to the staff who were using them and in some cases the public who were there as well, listened to what they say about the good and the bad things, sort of drew up a dossier of must haves, must not haves and things in between spoke to a number of interior designers and chose a particular designer who seemed to have the sort of thing of thing in mind that we were looking for.

Other factors mentioned by this manager was the upcoming Social Welfare Information for Tomorrow Today, (SWIFTT) computerisation, and the need to develop a "barrier free" environment for those with disabilities. A set of standards was developed by a committee which included user groups, generally managers or senior people in each area, and representatives of union, Equal Employment Opportunities and Maori interests.

5.3.1.v How did office worker participation differ from the participation they expected?

In analysing the differences between worker's expected and actual participation in office planning, two types of office planning processes were discussed, each with distinctive sets of expectations. On the one hand, office planning was discussed in the context of participating in plans to move to a new office, or for major alterations to an existing office. On the other hand, workers were also concerned about participating in decisions about modifying the existing workspace so suit them better. Becker (1981) distinguishes between these two types of environmental planning. While workers varied widely in their levels of expectation about planning in major moves, they were more unified in their expectations of management to take actions on features of the environment which created discomfort or inefficiency.

In one case a Personnel secretary said that decision-making in her position was a bit 'ridiculous' as she had a supervising secretary. However she then mentioned how the secretarial group had been given priority in the allocation of floor space and had been allowed to select their own furniture.

The lack of consultation between the section heads, the architects employed to make the changes, and the manager of Lincoln University's OSU and his staff led to inappropriate location of power points, a door put at the wrong end of a room, and no storage space in the reception area. The layout of the reception area at the OSU seemed to indicate a lack of understanding by the architect of what was involved with the job and of the general comfort requirements of individuals. The impression the receptionist had of the area was that it had been built for a person who just sat behind a desk and did not do anything else. "The plugs for the typewriters were behind us in cupboards and there was no storage space." This lack of storage space meant that the area looked untidy ("whereas a reception area should be clear") because student's academic files and folders are on the bench behind the reception desk. This also meant that the area posed a security risk: during the day somebody had to be behind the

desk at all times and the area was not secure from intruders. Given a choice this receptionist would have liked more cupboard space so the reception area could be kept tidy. She would also have preferred a lower counter: this is presently too high and to counteract this she stands up when someone comes to the reception area. A possible solution would be to build a small room, which would mean that all the academic files could be put out of sight, and also allow her to have somewhere private to put on her make-up and do hair apart from going to the women's toilet. Another problem she faces at present, potentially solved by the addition of a room, is privacy to eat her lunch. At present she will only have a cup of tea at the front desk.

Other problems related to the physical comfort of the receptionist and the slippery nature of the marble flooring in the rain. Teething problems included a leaking roof, doors which blew open easily creating a draft, and a lack of carpeting behind the reception desk. These were not problems in summer but it was unbearably cold in winter as the wind blew through. It took eight months of "nagging" the planning officer for a screen to be put up to stop the draft. The marble floor was very slippery when it was wet outside, especially for students wearing rubber soled footwear, and noisy because of the reflective nature of the surface.

I think that perhaps in the last year it's come to be what we expected, a proper reception area. We slowly got plants organised and a notice board and chairs and things. It took persistent nagging. Now we can get people a cup of tea, so people feel welcome.

5.3.1.vi Did office managers and office workers perceive participation in office planning in the same way?

Office workers and manager tended to agree on the events which occurred in the planning of office space, however they differed on the significance given to each stage of planning and the appropriateness of decision making processes.

- **The appropriateness of decision making processes**

Some individuals expressed concern that procedures used to collect information were not appropriate. A health promotion unit worker described how she had "gasped" when faced with

what she felt was an inappropriately lengthy verbal questionnaire. She would have preferred someone to have talked about the things contained in the questionnaire and said that no one had taken any notice of it.

- **Perceived fairness of decision making**

In some of the organisations the decision-making was perceived as fair, and workers did not see any other way of making decisions. In two organisations, resources were perceived by some workers to have been commandeered by particular individuals or groups. The first situation was where one individual stretched her workspace boundaries by strategic placement of furniture and pot plants, as described earlier. In the second example, workers perceived that a particular group situated in an open plan area had received elite treatment by being allocated their own room. At that time work areas were located around the outside of an open plan area with no screens or other types of partitions. A supply of screens had arrived from somewhere, and one group used them all to build a "little hut" in the middle of the floor. A staff meeting was held, and a directive issued that the screens were to be distributed equitably throughout the open plan. The group concerned was also given a room of their own. Although the manager had allocated the group the room on the basis that it was the right size for the group of three people, she was aware that other staff felt the group had been given preferential treatment. This was reflected in the comment

I think that when any particular team is going to be allotted a private office, just for that team, I think that needs to be discussed. I think that an elitist situation has arisen. I just feel that one particular group of three people seemed to get more than the rest of the 'Indians' in this place.

- **Perceived ability of management to negotiate for staff needs**

The perceived ability of management to negotiate for staff needs varied by type of organisation. In the Department of Social Welfare, the sample of workers interviewed were confident that if a problem arose which was associated with office space then their immediate supervisor would be able to get something done about it. At the Polytechnic, the Salaries staff experienced long delays waiting for problems to be followed up. This applied both to problems which affected them personally, and those associated with the installation of new systems. At Lincoln, staff of

the OSU knew that their manager was willing to take their concerns to the Section Heads team, but felt that he was not able to negotiate effectively on their behalf.

5.3.1.vii Did office managers and office workers perceive the outcomes of office planning in the same way?

The analysis of perceptions of outcomes revealed some concerns about:

- the overall impression of how outcomes were achieved
- the appropriateness of outcomes

An impeding factor in managing decisions was having a limited overall floor area. The case study illustrates this point as does the experience in the other organisations which had an overall space limitation. Temporary workers were just "poked into corners - wherever you could fit them" and workers described the process as "haphazard" or "ad hoc"- "it just occurs, don't know if there actually has been a decision making process". "As the organisation grows, people just spill out into corridors there has been little thought given to expansions".

5.3.1.viii How did workers and managers perceive involvement in decision making to affect work behaviour and attitudes?

The effects of participation on work attitudes and behaviour seemed to follow Brill et al's (1984) analysis of perceived benefits being twofold. The act of participating itself seemed to produce favourable attitudes towards management and to have created a good team spirit. This set of effects was separate from the benefits gained through the production of a better environment as a result of having the environment reflect personal preferences. In most cases participation involved providing management with information.

- **Expectations of participation**

There were three characteristic responses to the question asked about how the work environment was perceived to affect feelings about work overall. One response was from those who felt the new environment was pleasant and who felt that it enhanced their feelings about work, then there were those who felt that their work environment had a negative

environment on their feelings about work. A third group may have liked or disliked their environment but felt that the work environment was largely irrelevant to their feelings about their work, that they got paid to do a job.

Many workers were dissatisfied with their work space, but made comments like "you just have to accept the environment that's been given us and get on with the job really". Not having enough space was a limitation of two of the workplaces. One worker commented that "you have to accept the increased stress in working in a small environment". As part of the management team one worker has recommended the engagement of someone who knows about layout and how much space a person needs is employed - "you don't really get a choice". However, one staff member interviewed was happy with her own work area in the open plan, which she compared with her previous experience of having no space of her own at work while employed as a teacher suggesting that prior work space experience may have a stronger effect than participating in decision making.

Several workers at Lincoln University's OSU perceived their needs were not being taken account of by senior management.

I think decisions are made, most of the time, by people who aren't aware of what is happening. People aren't consulted on issues. In some ways the way it makes you feel is almost degrading, you're treated like a number - a robot

5.3.2 SPECIFIC RESEARCH QUESTIONS (Privacy)

5.3.2.i What level of privacy did managers and workers expect?

Attitudes to privacy expressed by workers and managers could be classified in a number of ways: a general need for "privacy" ; specific situations or types of work in which privacy is important; the privacy/communication trade-off.

- **General need for privacy**

A general need for privacy was expressed by number of workers. No patterns were apparent according to worker type or organisation. This appeared to be One worker at Health Promotion described her priorities in a workspace:

I think space is important natural sunlight also, I think that it is really important to have your own space, to be private.

A special case had arisen at the Polytechnic, where many staff members were "grieving" over the death of a long serving, much respected and liked work colleague. At that point a request was made for a staff rest room which would provide an appropriate venue where staff could be emotional. A room thought to be vacant was allocated to this use and a cheap lounge suite obtained. However when it came to moving in, the room had been taken over by union groups, who would not shift. People resorted to going outside, to the toilets, or to the library which had bean bags, and a sensitive, sympathetic and mainly female staff.

- **Situations or types of work in which privacy is important**

Speech privacy was perceived to be important in situations where personnel matters relating to pay, leave provisions and staff appointments were discussed over the phone. It was also important in situations when clients or visitors to the organisation were discussing personal information. In the two education institutions students and sometimes parents had to discuss family and financial details. At the Health Promotion Unit visitors sometimes wanted to discuss personal health issues about which they might be embarrassed. At the Department of Social Welfare, where many of the clients were not voluntary, personal, family and financial information was required in order to determine access to the Department services and benefits. Limiting the number of distractions was important when workers were involved in tasks which involved high levels of concentration, or when having focused discussions with others. For some, engaging in such activities was most of their work situation. For others, concentrated work tasks and intense discussions were only one part of their work cycle, and occurred on a semi-regular basis or rarely. In general, those whose jobs involved mostly concentrated work were managers and they had fully enclosed rooms.

The ability to regulate accessibility was perceived to be important to workers engaged in work which dealt with confidential information. In some cases this was information about the organisation, such as financial records with potentially commercial value; in others cases information was personal information on clients, students or staff members. This information was sometimes in paper form such as invoices, and other times displayed on computer screen.

When undertaking concentrated work was another situation in which workers perceived they would benefit from restricted accessibility. The reaction of those who said that they had no control over accessibility was mixed. Being too accessible was one of several causes of stress to the Reserve Collection librarians at Canterbury University whose work area bordered that of the Reserve Desk. Workers in open plan were varied in their response to accessibility.

Workers from two sites made comments about enjoying group conversations and jokes, but drew attention to two problems associated with a high level of accessibility. The system depended on all workers having the same amount of work, and workers compatibility. Accessibility between supervisors and staff was an issue for both groups in situations where staff were involved in providing advice. A human resources manager spoke of conflict between wanting to let her staff have autonomy in their work, but at the same time wanting to ensure that correct information was being given out. A pay clerk was worried about a prospective move in which her desk would be located near a counter at which she had responsibilities for providing information. She felt that she would be more inhibited in checking with her supervisor that she was providing the correct information.

The librarian at DSIR Antarctic felt isolated in her workspace away from other staff and felt that she did not have enough humorous distractions. She also felt she was no longer part of the informal information network.

Conducting meetings in an open plan was also a problem for some, because of constant interruptions from telephone calls. Arranging meetings with visitors was also a problem in the open plan for some, as it was not seen as desirable, or conducive to creating a good profile.

Working without distractions was not possible in an open plan. Libraries were used by workers at DSIR Antarctic, Health Promotion Unit and the Polytechnic as a place which was more likely to be free from distractions. The ability to choose an alternative place to work was dependent on whether the "tools" of work could be transported. For example, the Salaries staff at the Polytechnic were tied to their computer terminal, and even if room had been available, they could not leave their desks.

- **Levels of contact wanted by different types of workers**

There were three main groups who felt that they needed a private room at some times. These groups were: those who were responsible for supervising staff, who wanted somewhere without distractions and with speech privacy for performance appraisals; those doing work which required a high level of concentration; and those who dealt with personal information about staff who were most concerned about speech privacy.

5.3.2.ii. Did managers and workers share the same views on levels of privacy?

Managers and workers shared some views on the level of privacy needed. However, managers were not really aware of what it was like working in particular situations. As managers they had their complete privacy needs met. Although the privacy needs of their staff were acknowledged, resolving the needs were often not of a high priority. For example, the manager at the Polytechnic realised that particularly the staff involved in personnel matters needed privacy but had done nothing about it. He had moved into an area where he was involved more in strategic planning and so was no longer so involved with the staff and did not deal with the situation with any sense of urgency.

Managers also had their own ideas about teams working together and the need to break down barriers between groups. The Health Promotions Unit manager wanted to see her staff working as a team like a conveyor belt. However, one staff member was very distressed by the level of distraction this meant and another one found it difficult to hold meetings with clients or other staff. When the latter staff member wanted privacy she headed for the library or a nearby cafe.

5.3.2.iii How did managers plan for privacy?

Groups dealing with confidential or commercially sensitive information were given the highest priority when planning for privacy. This tended to be financial sections and those dealing with information about clients, students or staff. Those staff who held "higher" positions were also given higher priority.

At the Department of Social Welfare, the manager's client-centred approach resulted in working areas for staff which were cramped. The office space had been very carefully planned to maximise the privacy available for staff/client interviews. Visitors had far more privacy than the staff working there.

5.3.2.iv What factors did office workers and managers believe affected their ability to control their levels of accessibility, distractions and speech privacy?

Analysing the factors perceived by managers and workers as affecting their privacy identified a number of variables. These variables include environmental, organisational, behavioural and symbolic variables and are discussed under the categories set out by Brill et al (1984). These are:

- control over accessibility
- control over distractions and interruptions
- control over speech privacy

Brill et al (1984) identified two aspects of control over accessibility - the ability to control access to workspace and the ability to screen out unwanted visitors and phone calls. The ability to control access to workspace was affected by a number of variables in this present analysis: by overall location of workspace and work group relative to entrances, counters, pathways, and shared resources; by type of enclosure and other types of barrier; though arrangement of the workspace; by organisational codes of behaviour relating to position in the hierarchy and other patterns of behaviour; and through engaging behavioural means.

Some workers found it very hard to concentrate because of high noise levels and distractions from people going past all the time and would have preferred less contact with other people.

Structural features such as columns were mentioned by some staff as constraining visibility. For example, in the typing area at the Department of Social Welfare, columns meant that it was impossible to monitor those entering the area. This concerned the Supervisor because of confidentiality of information on computer screens as well as making it difficult to monitor the level of incoming work. Some workers, a researcher and a public health nurse involved in preparing information resources were located in open plan offices and found the level of interruptions and distraction from other workers and visitors disturbed their work. Two older male workers located in an open plan office with younger female workers sometimes found repetitive "chatter" irritating.

they have all got to say things ten times a day one does not mind hearing things once - it lets you know what is going on, but over and over again!

5.3.2.v How were levels of privacy perceived to affect work behaviour and attitudes?

To analyse the perceived effects of privacy on work behaviour and attitudes, the effects of control over accessibility, over distractions and interruptions, and over speech privacy are examined in turn. In accordance with Altman's (1974) analysis, those who perceived they had little control over variables fell into two main groups, those who did not have the contact with others they wanted and who felt isolated, and those who had too much contact with others.

- **Managers' perceptions of open plan**

Each of the organisations sampled had planned open offices for some of their staff. Reasons for this were varied. Open plan offices were favoured by managers for the following reasons:

- facilitate work flow
- utilise staff better
- breakdown barriers between staff
- encourage team work

- allow flexibility
- encourage multi skilling
- public relations function
- ease of supervision
- **Effects on ability to perform work**

Workers in open plan offices found it hard to concentrate when the noise level was high. Two workers at the Canterbury Area Health Board's Health Promotion Unit mentioned the problems which occurred with one work group being located in several areas. The workers located nearest the reception area were interrupted and there had been problems of isolation.

- **Ability to meet with others**

For those whose job required them to meet with others outside the organisation, having a room to meet with others within the organisation or visitors was mentioned as a problem. A local coffee bar was used by members of the Health Promotion Unit. The disadvantage of that was that it took "quite a bit of time out of the day". The lack of a private room for meeting with visitors was mentioned by staff as affecting workers' ability to carry out their work in a professional way.

The situation at the Health Promotion Unit, where one group of workers had screened themselves off, was described by a colleague as:

..incredibly off-putting because they were an elite section in the middle of an open plan, and it made me feel that I couldn't go and approach them about anything...

Receptionists and others in the open plan areas with little or no control over their accessibility managed their control over disruptions and interruptions through verbal and non-verbal behaviours, and "psychological tactics". This included telling others they were busy, "putting heads down" and tuning others out.

5.4 Specific Research Questions - Summary

The analyses above has addressed each of the Specific Research Question developed in the Rationale. This chapter has illustrated the experiences of office workers and managers with office space planning. Workers did participate in the office planning process in all the organisations sampled, generally by completing a questionnaire or commenting on a floor plan. Managers and office workers tended to have similar perceptions about the planning process. A key finding on participation was that managers, who were all new to the office planning process, found out during the process of planning the extent of their own ability to contribute to plan. In several instances, the input of office workers was lost, because the managers did not have final say in making decisions. Perceived fairness in the allocation of individuals and groups to work areas was of great concern to office workers. Finally, office workers seemed to view office space planning as an ongoing issue, not just associated with a major move.

A key finding on office worker privacy was that most workers interviewed wished to have some control over their exposure and accessibility to others, freedom from distractions and at times speech privacy. Another key finding was the identifications of factors or processes which interfered with the gaining of privacy. These included the location of power points, computer cabling and lighting all of which could restrict the ways in which office workers could arrange the office space and influence their levels of privacy. Finally, while managers may have planned for office worker privacy through the provision of a fully enclosed room, it was easy for this space to be thought of as available for accommodating new or temporary staff.

These and other findings of this chapter are further discussed in the next chapter which focuses on addressing the two General Research Question set out in the Rationale and concern the planning of office worker participation and privacy as a management issue.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

6.0 Introduction

This study investigated manager and office worker involvement in planning office space within seven organisations. In particular, it explored issues concerning managers planning for worker participation in the planning process and planning for the outcome of worker privacy. This was in order to consider the question of whether management theory and practice should give more attention to the processes and outcomes involved with office space planning.

This chapter begins by addressing the two general research questions generated in the Introduction:

- Should management theory and practice give more attention to office worker participation in the planning of office space?
- Should management theory and practice give more attention to office worker privacy in the planning of office space?

A later section of the chapter then moves to consider how the methods used to investigate and analyse the data which were collected facilitated or impeded the researcher's ability to answer the research questions. Methodological considerations for future researchers are outlined. Finally the conclusions of this study for management practice and theory, and for researchers examining the planning of the physical environment are summarised.

6.1 General Research Question - Participation

Should management theory and practice give more attention to office worker participation in the planning of office space?

6.1.1 Manager Involvement in Office Space Planning

This study concludes that office space planning for worker participation deserves more attention in management theory and practice. Becker's (1981) description of managerial involvement in planning of office space was confirmed: the managers interviewed had an ongoing involvement with office space planning and also were faced with the consequences of the planning process long after that of those designing the work environment had ceased. The actual role of each manager in planning varied slightly as did the people with whom they had contact throughout the process. Most had the task of both preparing a brief setting out the organisation's or work group's requirements to be used by those designing or building the workspace as well as managing the logistics of the move process.

For a number of these managers, these tasks were part of managing a broader organisational change process. This sometimes involved changes to the tasks workers were to perform and to the working relationships both inside and outside the organisation. In each case they were wanting the change in office space to facilitate or at very least not to interfere with the achievement of these other changes. For each of the managers interviewed, the task involving the planning of office space was new, and they did not have a set of guidelines or texts to follow at the beginning. Likewise, at the end of the process, they could not contribute to a body of knowledge so others could benefit from their experience. The written records provided by managers interviewed included floor plans, statements of organisational intent, diagrams of organisational relationships, and minutes of meetings at which changes to the work environment were discussed. This information did not seem to be part any of the organisations' systems for collecting management relevant information¹. Thus it seemed unlikely that knowledge about planning office space

¹ The fieldwork for research was undertaken before the introduction of two pieces of related legislation affecting workplaces in New Zealand, which may mean that this statement is now out of date. The Health and Safety in Employment Act, 1992 locates responsibilities for the health and safety of employees with the employer. Serious harm injuries involving disability are required to be reported to the Occupational Safety and Health (OSH) service of the Department of Labour. Occupational Overuse Syndrome which often develops in association with use of VDU terminals in offices commonly falls into this category. As employers who fail to adequately provide for the health and safety of their employees can be fined heavily, these legislative and financial incentives may mean employers have begun consider the physical work environment as a management variable. Likewise the Accident Rehabilitation and Compensation Insurance

would accumulate in a systematic way and be easily accessible to those undertaking a similar process within the organisation in the future. Some of the managers interviewed felt that they had learnt a number of aspects about the planning process along the way and would do things differently next time.

6.1.2 Manager Planning for Worker Participation

This research found that all office workers interviewed had participated in office space planning processes. It also revealed that alongside the formal process carried out by managers, processes existed whereby office space was informally planned by particular groups and individuals, and that difference in ability to participate in these informal planning processes created tensions amongst staff. The importance of these informal planning processes will be discussed after considering those planned for by the managers interviewed.

The main methods of involving staff used by the managers interviewed in this study were through the completion of questionnaires, by seeking comment on floor plans, models and diagrams indicating potential operational and geographical relationships, by visiting the planned site, and by selecting office furniture. This fits in with the findings of Brill et al (1984) who categorised participation either as "giving opinions or information" or "making decisions". In this research workers were predominantly involved in providing information or comments as part of the formal planning process.

A key finding of this study was that most of the managers interviewed had begun the planning process believing that their role would be to "make decisions", and sought input from their staff on this basis. However, they discovered during the planning process that

Corporation (ACC) Act, 1992 introduced an Experience Rating System which may also encourage employers to consider costs associated with the physical environment. Under Experience Rating the amount of premium an individual employer is liable to pay to the ACC is directly based on the number and cost of the claims made by their employees for work related accidents. Employers whose employees have no or few and minor accidents will receive a rebate from ACC, those who have many and severe accidents may end up paying extra premium.

their role instead turned out to be to "provide information or comments" to others. They had understood that they were preparing a brief, which would be translated into instructions for those constructing the office, but found that others actively overturned or just seemed to ignore their efforts. Naturally this led to feelings of frustration. It was not possible in this study to find out how or if briefing information was used by the individuals or groups to whom it was forwarded. What is clear is that the managers were left with a sense of having wasted their own and their staff's time and with the consequences of having raised staff expectations to no avail. At least, it illustrates a lack of communication between the managers and the other parties and a lack of clarity concerning their part in the planning process.

The identity of the "other party" is likely to vary among organisations. In the current cases it included senior management groups to which the managers interviewed belonged, and architects employed by the owners of the building. To avoid having to comply with the requirement of those outside the organisation, one organisation, which had been leasing space, opted to buy a building.

That such misunderstandings occurred in several of the organisations supports the argument that management practice needs to give more attention to planning for worker participation in the decision making processes about the office environment. Brill's (1984) outline of the advantages and disadvantages of participation from the view of managers, designers and staff (Appendix) were found to be common views. In particular there is a need for managers to clarify the extent of their decision making brief at the beginning of the planning process and then to only involve staff in planning aspects under their management. In most of the cases the managers interviewed were sandwiched between their staff and others involved in the planning process. Managers need to be able to communicate clearly with all those involved in the planning process. Office staff need to know what information is sought, how much time they are expected to put into contributing to the decision and how the information or comments gained will be used to make the final decision. They also need to be able to negotiate effectively with the others with a stake in

the planning process, for example, building owners, senior management groups, and other tenants in the building.

This study did not set out to establish a relationship between participation in decision making and the achievement of organisational goals so it cannot recommend which decisions, if any, office workers should participate in. The managers and workers who were most enthusiastic about participating in the office space planning were those who had actually made decisions about their own physical workspace. This supported the findings of Brill et al (1984).

6.1.2.i Plans made but lost along the way

The interviews revealed another type of problem which resulted in the intentions of managers not being transformed into action. This problem was due to the large number of people involved in the planning and construction process. It could be termed a "Chinese whisper" effect whereby the information contained in the brief prepared by managers with staff input was passed through a succession of people each with a different involvement in the planning or construction of the new environment. In this transfer process the content of the information seemed to get lost as each individual or group would listen only for their own particular set of instructions. For example information might be transferred from the manager to a senior management group, to the building's owners, to an architectural firm who developed plans and who then contracted builders, electricians, telecommunications, cabling and air conditioning specialists, and possibly others. The problems which arose in this process had the effect of limiting the ways in which the work areas could be used. The main problem was that the work spaces created had limited flexibility in the ways they could be arranged and used because of inappropriate location of power points and computer cabling, the direction doors opened, room shape, and lighting levels and location. In other cases the noise created by ventilation and air-conditioning systems affected comfort levels. These types of situations seemed to be avoidable if there was more communication between those constructing the environment and the eventual users of the environment.

Again it seems that there is a need for managers to give more attention to the planning of office space to reduce the likelihood of mistakes occurring. It is hard to know how managers should address this problem given that they work within budget restraints. They could provide a more detailed brief concerning the arrangement of the final environment. They could call together meetings of all those involved designing and building the office space as well as the eventual users of the workspace, in order to achieve a better result. However this may not be a realistic solution as the time of such a meeting or meetings would probably be billed to the organisation.

6.1.2.ii Informal Planning Processes

A third area appeared to affect the effectiveness of managers' planning for workers participation. This was a process which occurred by "default". Managers either deliberately handed over or through omission or ignorance left some decisions to groups of staff to resolve amongst themselves. The previous chapter highlighted a number of situations where a group of staff had been left to work out the way in which they would allocate space among individuals. This process seemed to result in perceptions that the process was unfair with some individuals gaining at the expense of others. This extra space was gained through informal means (for example, extending work space through placing pot plants strategically, refusing to move from a room and gaining access to extra furniture through informal channels) and resulted in some individuals and groups perceiving that they had missed out. Furthermore, this study found that a manager's failure to do anything about these situations was perceived to favour actively those particular individuals or groups.

The findings of this study suggest that managers would benefit from being aware that the perceptions of office workers may be affected by these processes. In the case of allocation of physical work area it does seem to be a process that needs to be decided on in a way that is perceived to be fair and it would seem that this process needs to be "formal".

6.1.3 Summary of Conclusions on Planning for Participation

This study identified a number of factors involved with worker participation in planning office space and found evidence supporting the findings of Brill et al (1984). The issue of planning for worker participation raises a number of key decisions which managers must make in when they use this technique in planning office space. They need to decide whether the purpose of involving staff is for the benefits which participating in decision making in general provide, or whether it is to gain a better fit between the physical work environment and users of that environment. In the first case it is particularly important to clarify the boundaries relating to decision making delegation. In the second case it is important to plan the participation process so that the most useful type of user input can be gained. The literature points out that most people (manager and workers) are generally not used to making decision about the physical work environment and part of the planning for participation may be to give workers the experience of making and evaluating environmental decisions. This may mean extending the time frame in order to trial office furniture and it may mean collecting systematically information about reactions to office space changes.

A related point distinguishes the views of management and workers on the longevity of the planning process. Managers tend to envisage the task of office worker participation in office space planning as an activity associated with a major change in office space. On the other hand workers are interested in being able to participate in making changes to office space as part of an ongoing process. It is just as important to them to know, that if they find an aspect of their physical work environment is interfering with their ability to perform their work, that there is a system which will respond to their concerns effectively.

In addition this research supported the notion that the environment serves as a symbol of the relationships in organisations, including the ability of the manager to achieve the outcomes desired by his or her staff. The immediate workspace of an individual also seemed to serve as a symbol of his or her perceived importance to the organisation.

6.2 General Research Question - Privacy

Should management theory and practice give more attention to office worker privacy in the planning of office space?

This study also sought to establish whether management theory and practice should give more attention to office worker privacy as an outcome of office space planning. In order to address this question the perceptions of office workers regarding how the privacy of their work space affected the work attitudes and behaviour were investigated. This was in conjunction with managers' descriptions of how they had planned for office worker privacy.

The concept of "privacy" selected for the analysis was based on the planning for workers to have "control over accessibility", to have "freedom from interruptions or distractions" and to have "speech privacy" (Brill et al 1984) and the discussion which follows is based on these concepts. Altman's (1974) concept of privacy as involving "territory", "personal space", "crowding" (and its converse "isolation") and "personalisation" of workspace and Archea's (1977) notions of "visual and auditory accessibility to and from others" as described in the literature review are also discussed.

6.2.1 Planning for Office Worker Control over Accessibility, over Distractions and Interruptions and for Speech Privacy

In Brill et al's (1984) analysis of privacy, control over accessibility refers to the "ability of office workers to control the undesired impact of the presence of others" when this presence is intentional. It involves being able "control who has access to a worker's space" and the "ability to screen out unwanted visitors and phone calls". "Control over distractions and interruptions", refers to the unintentional and accidental effects of being with others. Finally, "speech privacy" refers to selectively controlling who received sensitive or confidential information about one's self or others.(Brill 1984:198).

The interviews with managers showed that they had generally taken into consideration an office worker's or work group's need to be have two way accessibility (to have access to others and for others to have access to them), from an organisational perspective. These decisions were often based on work flow diagrams or other statements which set out the functional relationships between different staff in the organisation and with people external to the organisation. Work groups and individuals whose positions involved a high degree of interaction with visitors or clients were located nearest entrances and on ground floors. On the other hand those whose positions involved little interaction with those outside the organisation and who perhaps were dealing with confidential material were furthest away from the public interface.

Another way in which managers planned for control over accessibility was by deliberately not giving work groups control over their access to and from other group. This was based on the principle that if two workgroups had more exposure to one another, that this would break down any conflict between them. This type of thinking fits within Zalesny and Farace's (1987) "social relations" hypothesis which predicts an enhancement for employees with a move to an open plan because there is increased opportunity for the development of interpersonal relationships (and high levels of attraction, satisfaction and motivation). While this study was unable to systematically investigate the effectiveness of this strategy, particularly from the viewpoint of workers, evidence seemed to be mixed as outlined in the previous chapter. At the Star newspaper the Manager reported that the Printers were now socialising more with Editorial staff, suggesting that this technique had succeeded. On the other hand, at Christchurch Polytechnic, as soon as it was possible to become separate again, screens were erected between the two groups.

Conversely, in some organisations managers had deliberately planned to provide workers with less two way accessibility in an attempt to increase productivity. They perceived that informal seating arrangements led to informal working habits, and planned to use screens to enclose each person's work area in order to restrict the access they had to and from others. They wanted to reduce the level of social activity and increase the level of

organisational task related activity. In this case, managers found that providing a more formal setting did reduce the level of informal chatter.

These examples show that managers were thinking about the level of accessibility workers had to and from one another and attempting to use the environment as a management tool. While managers were planning for staff performing various roles to have what they perceived to be the appropriate level of accessibility, there were a number of situations in which workers perceived that their lack control over their accessibility affected the ways in which they performed their work. Awareness of these situations could help managers when planning for office worker privacy. A number of examples could be drawn from the previous chapter to illustrate how the lack of planning for worker control over accessibility and freedom from distractions or interruptions affected their work. For the purposes of this discussion, only issues involved with worker location by enquiry counters or reception desks are described fully, and others briefly summarised.

For those working near counters, control over accessibility, interruptions and distractions was a problem for a several reasons. Receptionists and those who were responsible for dealing with public enquiries, while enjoying their contact with those coming to the counter, also liked to have somewhere where they were not accessible to those they were attending to. Reasons for wishing for a "private" space ranged from wanting "somewhere to revive make-up" to a place they could seek "advice from senior staff in order to respond appropriately to those at the counter" without seeming ignorant. In some organisations there were workers located near counters who were not responsible for attending to enquiries. Because of their visual accessibility, enquirers would assume that such employees should be responding to them.

A final set of problems was experienced by those who combined a reception role with other tasks such as word processing or records management. Two of these problems were related to the assumption that standing or sitting at a counter answering enquiries was the only task undertaken by these people. This assumption was made by both the designers

and builders of workspaces and by those calling at the counter. In some cases these areas did not have adequate storage space or facilities for using equipment, which meant that the workspace could not be organised or used in the most efficient way and did not reflect how that person wished to present themselves to those across the counter². Secondly, because they were visually accessible, they were sometimes bothered by people "just wanting to chat" or wishing to "pass time".

The other aspect in which planning for control over accessibility seemed to be lacking was for workers in an open plan situation. Many of the workers enjoyed the contact they had with others and being able to "share a joke", but when they were busy and others were not, problems arose, especially if they were tied to using a particular bit of equipment in the room such as a computer. This study found workers in this situation to be resentful of the uneven work load and their dependence on others to be considerate. This problem was partly overcome in some organisations who were deliberately "multi-skilling" workers so that they learnt to perform all tasks performed in the work area and were able to even out the workload.

This study gave support to Altman's (1975) concepts of "crowding" and "isolation" as being situations where people are not able to control their level of contact with others. Although this study did not identify the factors influencing or measure the effects of perceived situation of crowding and isolation, these concepts were mentioned by several of the staff interviewed. In particular managers may need to be aware that employees who perceive their work environment as crowded and cluttered (sharing a large open plan with little enclosure round individuals' work areas) find that a working atmosphere can be easily disturbed by one individual's mood. Tensions and irritation may also arise between workers of different ages who are forced to share the same work area, as they do not share the same kind of 'work chat'. Conversely in situations where workers perceive themselves

² One aspect which was commonly overlooked in planning was the need for storage space, the provision of which impacts on individuals ability to present themselves in the way they would prefer.

as isolated, they felt they were missing out on informal communications and the friendships which develop within the organisation, and that deliberately seeking that level of contact took them away from the tasks they were paid to perform.

There was also support for Altman's (1975) concept of "territory" as being a component of privacy for individuals and groups. This is another factor which may require further attention by managers. This issue was highlighted in this study through the library example of the Reserve Collection Librarians who did not have a clearly defined work area or "territory" separating them from Circulation staff. They found pens went missing and because they did not have an organised looking workplace, the senior librarian was constantly being interrupted to deal with matters which could have been handled by other staff.

In this study, managers generally planned for "speech privacy" for those in supervisory or managerial positions, and for situations where those visiting the organisation would be discussing personal information. This was through the provision of fully enclosed offices. However, in several organisations, one type of workers' need for speech privacy appeared to be overlooked. This involved were clerical workers who were required to deal with personnel matters by phone while located in an open plan office. Workers felt that it was unfair of management to expect them to carry out these tasks in an open plan setting. They had no control over the level of surrounding noise when dealing with sensitive matters (e.g., raucous laughter in the background when telling someone they had missed out on a job). When discussing confidential information (e.g., salary level or entitlement to special leave) they had to be careful not to reveal the identity of a person being discussed over the phone. The need to keep information confidential also limited verbal communication within the work groups sharing an open plan with others.

Based on the current study, one factor which interferes with managers' planning for situations for worker speech privacy, is organisational growth and increases in requirements for accountability. This need for additional accommodation means areas

which may be allocated as interview rooms or areas where staff could work without interruptions tend to be thought of as "expansion space". It is very easy for managers to think of a room which may be empty for much of the time as available to accommodate additional individuals or groups. For the workers interviewed, losing access to such a facility seemed to decrease their contentment with their work environment and affect their productivity. Time was spent having to organise alternative venues outside the organisation for meetings in which speech privacy was important, to work without interruptions or to avoid interrupting others in a shared work area.

6.2.3 Summary of Conclusions on Planning for Worker Privacy

The focus of this investigation has been on whether management theory and practice needs to give more attention to the planning for office worker privacy. The conclusion this study has drawn is that several areas involved with planning for worker privacy seem to be overlooked or not considered by managers and therefore require more of their attention.

When planning office space, the findings of this research and those of previous researchers (e.g., Brill et al 1984) suggest that managers should consider how they can provide for worker privacy regardless of office worker position. This conclusion is based on the material provided in the interviews which provided numerous examples of how organisational time was wasted because workers had to work around situations where the work environment did not support the tasks they had to perform. This research would endorse the use of the framework provided by Brill et al (1984) and suggest that managers consider the ways in which they can provide for worker control over their two way accessibility, their freedom from interruptions and for speech privacy. In addition to these aspects, managers would also benefit from considering the ways in which the planning of the office environment can help people establish the work related relationships they feel comfortable with. To this end the concepts developed by Altman (1975) are useful. In other words, attention should be given to how office space can be planned: to meet individuals and groups of workers needs for clearly defined territory; to maintain the

personal space they wish to have between themselves and others; to prevent situations of crowding and isolation and to allow them to personalise the work area.

6.3 Discussion of Methodology

This section now turns to discuss the methods of investigation and analysis which were used to draw the conclusions above. The methods chosen in this study were qualitative involving obtaining and analysing information provided in semi-structured interviews, written documents and floor plans. The framework used to discuss the methods is based on the recommendations of Patton (1990) who states in his text on qualitative methodology that "the task of producing a credible, high quality analysis involves doing one's best to make sense out of things". He poses the following two questions which can be used to evaluate a research method.

- Did the method produce the kinds of findings required by the researcher? In other words, was the method suited to the task?
- Is the method used also relevant to the investigation of other questions?

The importance of evaluating the methodology is emphasised by those concerned to establish a qualitative research tradition which is able to draw from a recognised body of knowledge. Qualitative methodologists Patton (1990) and Miles and Huberman (1984) and environmental design researchers (eg., Zeisal 1974) suggest that recording details of the data collection and analytical techniques is critical for two reasons. First, it provides a means of assessing the weight which should be given to the findings of such research. Second, it helps the research community to distinguish those research methods which are useful from those which are not and which may be "idiosyncratic, murky or inconsistent, and reflecting one person's unique perspective" (Zeisal 1974). The tendency for qualitative researchers not to record the details of their methods is emphasised as a key reason for less weight being given to the findings of such studies.

Patton (1990) outlines three key points he believes are critical to the credibility of a qualitative study:

- the techniques and methods used to ensure the integrity, validity and accuracy of the findings
- the qualifications, experience and perspective of the researcher
- the underlying paradigm, orientation and assumptions of the study

To establish the credibility of the current study the first two points will be addressed in turn. The Rationale chapter of this thesis has already addressed the third point.

6.3.1 Integrity, Validity And Accuracy Issues

These issues are concerned with the extent a researcher can be confident of his or her findings. This requires consideration of the ways in which data were collected and analysed. The methodology used in the current study was based on the recommendations of the qualitative methodology literature. In particular, use was made of Patton's (1990) method of "triangulation" in which the investigation of a research problem employs several sources of data and analytical techniques. Patton (1990) believed that using a variety of data collection techniques and evaluation strategies adds to the "verification and validity of qualitative analysis". Triangulation is a process of "thickening" or strengthening the data. The present study employed three of four triangulation strategies suggested by Patton (1990). These were a triangulation of data sources; a triangulation of theories and perspectives; and a triangulation of methods.

6.3.1.i Triangulation Of Data Sources

In order to address the research questions developed in the Rationale, it was necessary to attain an accurate picture of office space planning in the seven organisations sampled. Use was made of techniques of data source triangulation and information gathered from a variety of sources. These sources were the interviews of managers, office workers, one design professional, and documentation relating to office planning from each of the seven different organisations sampled. This enabled the following types of triangulation of data sources:

- **Comparing Responses Within Each Interview**

This method involved examining how each subject responded to the questions asked in the interview. The accuracy of the information provided could be gauged by examining how consistently respondents responded to questions asked. If the response to one question conflicted with information provided in another, then this would have raised questions about the accuracy of information provided and the weight of any conclusions based on those data. The information provided might not have been wrong; it might just mean that the research instrument was not sensitive enough to clarify what was meant. Examination of each interview also provided measures of the overall success of the interview schedule and the interviewing technique in obtaining the information sought. Finally it provided contextual information about the person, such as his or her attitude to the organisation, job and to the interview itself. In the current case, respondents seemed to be consistent in the way they replied to questions, suggesting that they were both providing accurate information and that the interview schedule and interviewing technique were appropriate.

- **Within-Site Analysis**

Within-site analysis involved comparing responses of subjects working for the same organisation. The information gained from this processes helped identify similarities and differences in the perceptions of different types of worker within one organisation. By carrying out within-site analyses the researcher was able to consider the influence of organisational variables (such as position in the hierarchy, job content and physical factors such as size of room or number of enclosures) on perceptions of office space planning. It also enabled the researcher to gain an overall impression of the organisation and factors influencing the planning of office space.

- **Comparing Interview Data With Documentation**

The comparison of information provided in interviews with documentation was another aspect of within-site analysis. It enabled an assessment of the extent to which an organisation's formal records of office planning were similar or different to the perceptions of its employees. In the current study the information contained in the written records did

not conflict with that provided in the interviews suggesting that both types of data were accurate. However, little documentation concerning the office planning process specifically was available.

- **Between-site Analysis**

This compared the responses of subjects in different organisations. It enabled the researcher to compare the ways in which different organisations made decisions about office space, as well as the perceptions of subjects occupying similar hierarchical levels or performing similar kinds of jobs. This type of triangulation was most useful in identifying issues common to individuals holding similar types of jobs. One problem encountered with between-site analyses was the difficulty in dealing with information from the seven different organisations, most which were very different in function and size. For example, the Department of Social Welfare is a large organisation and the executive assistant of the director of South Island operations was interviewed to gain an overview of changes occurring in three offices. In contrast, interviews at the University of Canterbury were conducted with a small group of Reserve Desk librarians whose department was undergoing reorganisation. Each organisation was coping with considerable changes caused by economic conditions. Although the same issues affected staff in all organisations, a tighter study would have been obtained by approaching organisations of a similar size and with similar management structures. However, this would have reduced the breadth of information collected.

6.3.1.ii Triangulation Of Theories And Perspectives

Patton (1990) believes that a qualitative study is strengthened through examining the data from a range of views, or different "theories of action" about a programme. In the present study data were evaluated from two perspectives. Data were examined from the applied perspective. Was the experience useful for managers involved with planning office space, for professional designers, and for those working in offices? From the theoretical perspective the question was asked: Do the data support the findings of previous studies on office space planning and privacy?

6.3.1.iii Methods Triangulation

Another method for increasing the validity of findings is by gathering information using a variety of techniques (Patton 1990). This study was able to obtain information about organisations and planning processes both from documents and from interviews. The original intention had been to collect a third type of information to "thicken" the data further. This was data of the physical dimensions of individuals' and groups' work areas. However measurements were not made at the time of the initial interview, and many of these areas had changed by the time the researcher went back to make the measurements.³ This physical dimension data would have been useful in order to identify differences in individuals' and groups' perceptions of work space, particularly when investigating the question of worker privacy. Future researchers would benefit from obtaining such data at the same time as other data are collected.

6.3.2 The Researcher

The final method of establishing the weight which should be given to the current data is considering the impact of the researcher as Patton (1990) suggests:

As the researcher is the instrument in qualitative research, it is important to report any personal and professional information that may have affected data collection, analysis and interpretation - either negatively or positively - in the minds of users of the findings.

Four possible sources of distortion are cited by Patton (1990) and these will be addressed in turn.

- **Reactions To The Researcher**

Overall reaction to the researcher seemed very favourable. Participation in the present study was voluntary, and based on the goodwill of each organisation's management. Most subjects were very interested in discussing their reactions to the recent office space planning process as well as the issues facing them in their own workspace. As the researcher did not have an ongoing relationship with any of the organisations and

³ The researcher had planned to go back to each subject with a copy of their transcript and make measurement of the office space while the transcript was being read. However, by the time the transcripts had been prepared, the arrangement of individuals work spaces in each organisation had changed. Any physical dimensions measured would therefore not relate to the information provided in the interviews.

confidentiality of information was agreed, subjects appeared to respond openly and candidly, as no repercussions were apparent to them. Little distortion of data could be expected due to the reactions to the researcher.

- **Changes In The Researcher**

In the course of interviewing, the researcher became familiar with the schedule and the issues facing subjects in each organisation or performing certain types of jobs. This may have led to subjects interviewed later being given more opportunity to respond on particular issues. In cases where significantly more information was provided by some subjects the timing of the subject's interview was noted. Changes in the researcher would therefore account for a slight distortion of the current data when undertaking within site analyses. Future researchers may like to build in as part of the study design a second brief interview, in order to ensure that each subject has the opportunity to provide the same depth of information.

- **Researcher Predispositions and Biases**

The present study was in part an exploratory study designed to identify and describe processes, expectations and experiences of those working in offices. The researcher had the following predispositions:

- a concern with the effects of office space planning and the environment which resulted from this process on worker attitudes and behaviour
- a belief that office space planning does not receive the same attention as other management issues
- a belief that a worker's satisfaction with their privacy levels is central to his or her attitudes and behaviour at work

These predispositions naturally provided a bias to the research: the research instrument was designed to draw out the perceptions of managers and workers concerning these issues. The current study was deliberate in its focus, but open in its approach. The data obtained reflected this: some respondents obviously did not give much emphasis to office planning in the way they thought about their work, and this information was considered in

the analysis. Researcher predisposition therefore is not likely to be a source of data distortion.

- **Researcher Strengths and Weaknesses**

The final source of researcher distortion, mentioned by Patton (1990) was considering researcher strengths and weaknesses. In this case, a researcher strength was her experience in interviewing for both research purposes and in other applied settings⁴. In particular she was able to develop rapport quickly and keep the interview focussed on the research questions. The researcher was also familiar with the qualitative research literature. In particular, the literature which highlighted issues relating to generalisability, validity and standardisation of data collection methods and analytical techniques had been investigated.

This means that the researcher was comfortable with the method of investigation, and was aware of the need to use the interview schedule in a similar way with all respondents in order to gain valid and generalisable data. These strengths were likely to reduce any distortion of the data.

The main weakness was the researcher's lack of familiarity with the research equipment. This is dealt with under the heading below.

6.3.4 Equipment

A few of the tape-recordings made of interviews were of poor sound quality. This was despite the researcher testing the tape recorder's function at the beginning of each interview by taping a preliminary conversation with the respondent, then playing back the tape to ensure that each voice could be heard. Having established that the equipment was recording audibly, the researcher then aimed at maximising rapport relying on the

⁴ The researcher had undertaken post-graduate interview based research previously and had received gained skills in interviewing through social work training and practice.

recording device to record the information. A timer was set to indicate that the tape was about to run out at which point the researcher would turn the tape over and record on the second side. As all interviews were carried out within a short time frame (in one case, seven in one day), it was not possible to listen to all recordings immediately after the interview. Therefore there was a delay before this problem was identified.

This problem did not affect the sampling of views in any consistent way so no bias due to tape quality is likely. However it did affect the time required to prepare transcripts and led to a gap between the data collection and the data analysis stages.

At the time of undertaking the interviews the researcher had found no guidance on technical matters in the qualitative methods literature examined. For example while Patton (1990) assesses the advantages and disadvantages of employing different types of data collection methods, he does not address technical questions relating to the equipment.

The researcher has subsequently found reference to the technicalities of tape-recording in qualitative texts on 'focus groups' (e.g., Morgan 1988) and sought comment from journalist friends who rely on tape-recordings as part of their work. On the basis of these references the researcher recommends that others following a similar methodology:

- use two tape-recording devices
- ensure interviewer and subject sit alongside rather than across a table
- make brief notes throughout the interview
- make notes immediately after an interview on each of the main areas covered
- schedule interviews so that there is time to listen to recordings within a day of taping.

6.4 Implications For Future Research On Office Space Planning

The current study employed a qualitative technique to explore current management practice in office planning. As far as was possible the researcher employed methods to ensure the

data collected were free from distortions due to the method itself. To conclude, Patton's (1990) question will again be addressed briefly.

- Did the method produce the kinds of findings required by the researcher. In other words, was the method suited to the task?
- Is the method used also relevant to the investigation of other questions?

The method selected was able to answer the research questions posed. It was not able to consider the relative importance of office space planning to managers and workers in comparison to other issues. Neither was it able to establish a relationship between office planning and the work related attitudes and behaviour of office workers. This is a task which will be left to researchers and to others interested in employing correlational and linear regression methods to establish the strength and direction of relationships. This study was exploratory in nature, and the method used would be appropriate to other investigations which seek to identify the dynamics which contribute to planning processes in organisations.

6.5 Concluding Statement and Implications for Office Space Planning, Theory, Practice and Research

This thesis has considered the question of whether management theory and practice should give more attention to the planning of office space. Both the literature and the perceptions of managers and office workers (of issues relating to planning for office worker participation in the planning process, and planning for office worker privacy) have been considered. This study did not set out to measure the relative advantages and disadvantages of different forms of worker participation or worker privacy in office space planning in terms of effect on the work-related perceptions, attitude and behaviour of employees. Instead, this study focused on identifying factors involved with current office planning practice by seven managers and the dynamics of office planning in the applied setting. Through this investigation factors likely to influence the success of any particular planning strategy implemented by managers have been identified.

This research found that the managers interviewed played a significant and ongoing role in the planning of office space. However, they were neither able to draw on or contribute to "management oriented" expertise on office planning either within their own organisation or through the literature. Management experience in this area thus falls into a void. Because of the lack of literature in this area it is hard for managers to carry out the tasks involved with office planning in a systematic way which allows for the development of expertise and theory testing. This seemed to be wasteful, as each of the managers interviewed explicitly or implicitly had developed hypotheses both about the processes and the outcomes they thought would best suit the organisation or work group(s) they were planning for. By carrying out the planning process they were testing these hypotheses, and many of them found that there were aspects they would change the next time they undertook such a task. However, as no systems existed for analysing the process, conclusions were not drawn or would not be easily accessible to themselves or others engaging in such a process.

To explore the dynamics and significance of office space planning to managers and workers, two aspects of planning were examined in depth: planning for worker participation and planning for office worker privacy. The Results and Analysis chapter outlined the dynamics of the planning process through a case study example and by addressing a number of specific questions posed in the Rationale chapter. This chapter provided examples of the ways in which planning for worker participation and privacy was perceived by managers and workers to affect the work related perceptions, attitudes and behaviour of office workers. This last chapter has then evaluated the evidence provided about the dynamics of office space planning in terms of the two general questions posed in the Rationale chapter. It is concluded that management theory and practice would benefit from increased attention being given to office worker participation and office worker privacy in the planning of office space by managers.

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Advantages And Disadvantages Of Employee Participation (Based on Brill et al Volume 2, p282)

Concerns about employee participation	Benefits of participation
<p>Designers</p> <ul style="list-style-type: none"> • design solutions are complex enough without adding more voices • it is not worth the additional time and cost & would designers get properly paid • participation interferes with the creative aspects of the design process <p>Designers....</p> <ul style="list-style-type: none"> • traditional methods have flourished without user input • have professional training and experience in the design process and therefore know the best way to design • do not have effective means of synthesising large amounts of explicit info about multiple client needs and want 	<p>For the design community</p> <ul style="list-style-type: none"> • Enrich the process the process of design by incorporating social and psychological values • create in employees, positive attitudes towards the designer and an appreciation of the designer and the design process
<p>Managers</p> <p>Employees...</p> <ul style="list-style-type: none"> • time with not be used productively - costs may exceed benefits • will try for everything they can get and ...strained or questioned budget & because they have raised expectations will be disappointed with what they really get. • know very little about design, will perform poorly and besides we've already hired an expert prof. designer • participation in design solutions will be tied to particular employees at particular times and the organisation will lose long term flexibility 	<p>For the organisation</p> <ul style="list-style-type: none"> • bring about benefits (below) for employees & result in ↑ morale & company loyalty & ↓ absenteeism & turnover • ↑ effectiveness of environment as tool so it fits the workers & ↑ and can increase productivity • ↓ probability of poor individual maintenance and vandalism and ↑ environmental caring by employees • ↑ positive attitudes on the part of the participant toward the organisation by showing apparent concern for the user's ideas, needs and values
<p>Employees</p> <ul style="list-style-type: none"> • is time being wasted, will voices really be heard or make a difference • will lack of skill at participation be used as a measure in performance review • will information and evaluations supplied be used against them - how will the information be used 	<p>Employees</p> <ul style="list-style-type: none"> • relieve anxieties about the unknown • become ego involved which sets the stage for positive feelings about the environment and organisation & will improve the QWL & life in general • satisfy needs for personal expression • ↑ the fits between tasks and environments designed to support them • ↑ peoples environmental control and competence • provides a reciprocal commitment between the employees and organisation • ↓ feelings of anonymity & alienation and increase feelings of creativity, helpfulness, responsibility and importance • encourage communication & associated benefits of ↑ sense of self and self esteem, heightened awareness, ↑ friendship & trust

APPENDIX 2

INTERVIEW SCHEDULES

INTRODUCTORY STATEMENT (HANDED TO SUBJECTS)

In this study, I am interested in two factors involved in the arrangement of office space. First of all, in the factors which decision-makers and office inhabitants consider to be important when making decisions about the office space. Secondly I am interested in the sensitivity of decision-makers and office workers to privacy issues. The meaning of privacy in this study is to do with the ability of individual office inhabitants to control both the auditory and the visual information given out to others, and that which they are exposed to from others in their workspace. I have chosen a small sample of organisations who have recently rearranged their office space. Four types of information are being sought from organisations:

- (a) the structure and function of the office within the organisation*
- (b) details of the decision-making process*
- (c) attitudes to the level of privacy in the organisation.*
- (d) physical details of the work-spaces.*

In this interview I will begin by asking for background information on the structure and function of your organisation and that of this office within it. Then I will ask about factors involved in the decision-making process which has resulted in the most recent arrangement of the office space, the expected impact of the decisions made and for any comments on the outcome of the process. I will finish by asking about privacy issues and about the priority given to office inhabitants sense of control over their workspace.

2. SCHEDULE FOR DECISION- MAKERS

A. ORGANISATIONAL VARIABLES

- *If available obtain an organisational chart and any written documentation about the organisation's goals and functions, and those of the office within the organisation and use as the basis for discussion. The following information is sought:*
- *a brief description of the organisation structure, function and style, including external pressures - how the office to be studied fits into this*
- *a description of the decision making structure as relevant to the office to be studied*
- *the organisational structure of the office*
- *brief detail of the jobs performed in the office (ie., job descriptions)*
- *the interpersonal contact required in the job*
- *tasks performed and the space requirements of these*
- *telephone calls etc.*

B. THE DECISION MAKING PROCESS

- *Any available written documentation which shows the chronology or other elements of the decision making process is obtained.*
- *When and what was the rationale was it decided to change the workspace arrangements in this office?*
- *Was it related to other changes in the organisation?*
- *Who decided on which decisions had to be made?*
- *What were the stages in the decision-making process ?*
- *What were the constraints in the decision-making process?*
- *What determined the priorities in the decision making?*
- *Who was involved in the decision making process and how? What were the details of their brief? What was their knowledge of the tasks performed and the space requirements of these?*
- *What were the decisions made? and the rationale for those decisions?*
- *For example, about the allocation of space based on status factors such as position in the hierarchy/ to the way in which the office has previously been organised/ money available/ flexibility vs fixed furniture/ social climate the organisation wants to promote/ priorities in allocating space?*
- *Was this kind of decision making typical of others in the organisation?*
- *How would you describe the type of working environment aimed for in this office?*
- *How important are decisions about the environment thought to be to the organisation to those working in the office to the performance of their work to*

feeling of worker satisfaction/ the development of organisational culture / to supervision relationships?

- *What outcomes of the decisions were expected and gained in terms of motivation/ productivity/ satisfaction/ interpersonal interactions/ supervisory relationship/ team relations/ relationships with those outside the organisation/ or in terms of work related facilities/technology or any other facilities recreation etc.?*

C. *PRIVACY RELATED ISSUES*

- *What the level of control are office inhabitants thought to have over their visual and auditory access to other people. Is this intentional, for example, part of team or supervisory style? Is it thought to be satisfactory?*
- *What is the level of interaction desired in the office between office inhabitants, supervisors, other organisational personnel and those outside the organisation.*
- *How is personalisation of office space encouraged? (through personal decoration etc.)*

3. SCHEDULE FOR OFFICE WORKERS

A. ORGANISATIONAL FACTORS

- *Briefly describe your position in terms of the structure and function of this organisation. What does your job involve ? Do you have a job description?*
- *Describe the organisation's management style and that of the unit which you work in or manage.*
- *What features if any, do you think make this organisation unique?*

B. THE DECISION MAKING PROCESS

- *Describe the decision-making process which has resulted in the arrangement of your office space or that of the unit you manage?*
- *What was your involvement in this? How much involvement did you have? Would you like to have had?*
- *What were the priorities? The sacrifices made?*
- *What are the differences between people in this office with regard to office space? How is office space allocated? Is it related to status?*
- *What were your expectations of the changes? How have these been met?*
- *In what other ways were you satisfied / dissatisfied with the outcome?*

C. PRIVACY

- *Could you please describe your office and your use of it? (As if you were sitting at your desk).*
- *What are the features of your workplace which determine your access to and from other people? (for example, screens, doors, windows, desk orientation)*

(i) Visual Privacy

- *Who can you see/ be seen by you at/ from your desk?*
- *(other members of the office, supervisors, people outside the organisation, others)*
- *What do you think about this? How do you think it affects your work? Which of these people would you like more or less visual access to?*
- *How visually distracting do you find your environment?*

(ii) Auditory Privacy

- *Who can hear you/hear you on the phone/ in discussions ?*
- *(other members of the office, how many? supervisors? people outside the organisation? others?)*
- *What do you think about this ? How do you think it affects your work? Which of*

these people would you want to have more or less auditory access to/ to you?

- *How would you describe the noise level in your workplace/*
- *Are there ways in which you manage your privacy levels (for example, through choosing to work different hours or by choosing to take work home/*

(iii) Territory and Personalisation

- *How much control do you have over the frequency and location of interpersonal activities involved in your job? How does this differ from your ideal?*
- *Are you comfortable with the arrangement with your office space?*
- *Are you able to personalise the environment to the extent you would like?*
- *What would you change about your workspace?*

D. OTHER PLACES IN THE ORGANISATION

- *Are there places in your organisation you feel comfortable in morning tea and/ lunch breaks/ conducting meetings/ working alone/ in discussions/ making personal phone calls*

E. GENERAL JOB DISCUSSION AND THE WORK ENVIRONMENT

- *Are you satisfied with your work environment? and how does this related to your feelings about your feelings about your job overall?*

APPENDIX 3

ORGANISATIONS STRUCTURE & FUNCTION AND INDIVIDUALS INTERVIEWED

1. DSIR - ANTARCTIC

- **Structure And Function**

DSIR Antarctic had two parts to the organisation, a stores and operations side and a administrative and information related side, including a library. The Stores and Operations side had always been located near the airport as the organisation is an air based operation. The other side was in town with staff located on several floors, some staff complained of feelings of isolation. This move involved bringing the two parts of the operation together and joining up with the American Antarctic Operation, Deep Freeze, and other international groups with an interest in the Ice in an Antarctic Centre located at the airport.

- **Individuals Interviewed**

Executive Officer

Technical Services Officer

Librarian

Researcher

Accounts Clerk

Receptionist

2. DEPARTMENT OF SOCIAL WELFARE

- **Organisational Structure And Function**

The Department of Social Welfare's mission is to promote and maintain the welfare of New Zealanders by giving best effect to the social welfare policies of Government which aim to promote the welfare of individuals, families and communities.

It aims to achieve this by:

- providing services which are culturally appropriate, ethical and effective, timely, courteous and accessible
- developing and maintaining a Department which is efficient, flexible in operation and sensitive to the needs of clientele and staff.
- advising Government on the development and impact of social policy and on the adequacy and effectiveness of existing services.

The head of the department is the Director General in Wellington. The Executive Management Group consists of the Director General, three Assistant Director Generals (Wellington), and four regional Assistant Directors.

There are four autonomous districts in the area of Canterbury north of the Rakaia River. Each of these has a management group consisting of the Director, the Assistant Director of Social Services, the Assistant Director of Benefits and Revenue and the Assistant Director of Corporate Services. A total of 650 staff are employed in Christchurch, with about 120 in the Sydenham office.

Corporate Services, the staff of which were interviewed for this research, covers office administration, typing and data entry, personnel and a limited amount of finance. Finance for the district is centralised at the Linwood office.

The splitting of the Department of Social Welfare in Christchurch into four district offices occurred in November 1989 in a manoeuvre called 'Breakout'. This event was a culmination of several years planning for a Christchurch District Office Reorganisation. This process was in response to a multitude of issues, stemming from increases in the number of beneficiaries and other clients of the Department which had resulted in more staff being employed. Issues included low staff morale, internal communication difficulties, management problems, dissatisfaction by clients and community groups and problems identified by an internal Maori Advisory Committee. Staff were asked to indicate their preferred location.

This change in office space was an example of a client centred organisation in which the move to new premises was expected to improve the delivery of services. The quality of service was expected to improve through the provision of better quality and additional facilities for clients, better communication within and between the divisions of the Department because of the smaller size, improvements to staff morale, and a reduction of vandalism and aggressive behaviour by clients.

- **Individuals Interviewed**

Executive Assistant To The South Island Director, Regional Office

Advisory Officer- Finance- City (2 Staff)

Executive Officer -Typing And Data Control - City - (12 Staff)

Executive Officer -Supply/Support- City

Executive Officer -Human Resources Development Unit(HRDU) - Sydenham (4 Staff)

Training Clerk (HRDU) - Sydenham

Executive Officer Office Services (OS) - Sydenham (9 Staff)

Senior Typist (OS) - Sydenham -(4 Staff)

Senior Section Clerk (OS) - Sydenham(1 Staff)

3. HEALTH PROMOTION RESOURCE UNIT, PRIMARY HEALTH DIVISION, CANTERBURY AREA HEALTH BOARD

- **Organisational Structure And Function**

The Health Promotion Resource Unit was one of the two support services within the Primary Health Division of the Canterbury Area Health Board, which also had four operating services, and two full-time Professional officers. The role of the support unit is to:

- i) improve health workers own health promotion skills and interest by providing a Consultancy and evaluation service.
- ii) improve individual health awareness and knowledge
- iii) conduct special pilot projects in target areas.

At the time interviews were conducted the Health Promotion Resource Unit had been established for 18 months and had a staff of 27 employees.

- **Individuals Interviewed**

Manager
Marketing Manager
Secretary Receptionist
Health Education Officer -Adolescent Health
Medical Officer - Maori Health & Women's Health
Public Health Nurse - Information And Resources

4 RESERVE COLLECTION LIBRARIANS

- **Organisational Structure And Function**

The Reserve collection librarians managed the collection of books which were in high demand staff members required to be available for use within the library. Their working area was located behind the library stacks containing the collection. In front of the collection was a counter which was used by Circulation staff to issue the books. There were a number of difficulties in this working area which staff felt were due to the lack of adequate storage space and furniture and the lack of definition between their work area and that used by the circulation staff which lead to stationery and pens going missing. An office furniture design specialist was selected to provide advice and build purpose designed furniture for this area.

- **Individuals Interviewed**

All staff of unit in a meeting situation

5. OFFICE SERVICES UNIT, LINCOLN UNIVERSITY

- **Organisational Structure And Function**

Lincoln University is a learning institution providing diploma, degree and postgraduate courses. The Registry

Clerical and administrative staff from four existing sections of the Registry were brought together to form the new Office Services Unit in 1986. Workload demands for each registry section peaked at different times during the year and it was thought that locating by staff together, they could be more easily shifted during a quiet time in their own activity to help out in another under pressure. This was also seen to be of benefit to workers as it enabled them to develop more skills.

Office planning for the new Office Service Unit was an integral part of the planning the nature of the relationships between the various members of the new organisation itself.

- **Individuals Interviewed**

Manager
Receptionist
Pay Officer
Pay Clerk
Works And Services
Senior Accounts Clerk
Secretary-Personnel

6. CENTRAL ADMINISTRATION, CHRISTCHURCH POLYTECHNIC

• Organisational Structure And Function

Central Administration provides most of the centralised non-teaching functions for the Educational Institution. The Central Administration Unit was formed in 1986 when Polytechnic General Office and Registry staff moved into the newly built K block from different buildings.

There is a management team known as the Registrar's Team comprising of:

- Registrar
- Deputy Registrar
- Associate Registrar Administration
- Associate Registrar Finance
- Projects Officer

Central Admin. is a single section but split into a whole series of function based subsections. Members of the registrar's team each look after several Subsections:

• Individuals Interviewed

- Registrar
- Associate Registrar, Polytechnic
- Accounts Payable, Polytechnic
- Salaries Officer, Polytechnic (2/3 Interviewed)

7. CHRISTCHURCH STAR NEWSPAPER

• Organisational Structure And Function

At the time of the interview the Christchurch Star was a newspaper published five week days evenings and on Sunday mornings. Four community papers were also published weekly from the office (News Advertiser, Observer, Pegasus Post and North Canterbury News). Three quarters of the Star's revenue came from selling advertising and the other quarter from newspaper sales based on the readership interest in editorial and advertising content. Soon after the interview the Star changed to being a twice weekly newspaper solely dependent on advertising sales for its revenue.

The Star has been owned by Wilson and Horton Ltd since 1988. The paper's General Manager in Christchurch is responsible for the overall management of the paper and staff.

The organisation has seven functional areas. These are:

- administration (Management, services, computer, accounts and PABX staff)
- production (compositors, photolithographers, rotary and photo-compositor staff)
- editorial (executives, reports, subeditors, illustrations and library staff)
- advertising (art, display, advertising services and classified advertising staff)
- circulation
- marketing
- community newspapers

The Christchurch Star moved from a building they had leased to newly bought premises they owned. Economic difficulties, the need to upgrade their press, combined with the introduction of

other new technology meant that the premises leased had become too big for existing requirements and further staff lay-offs were a possibility. In addition, new senior management was keen to change the pattern of relationships between different groups of staff prone to demarcation disputes.

- **Individual Interviewed**
General Manager